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In This Issue

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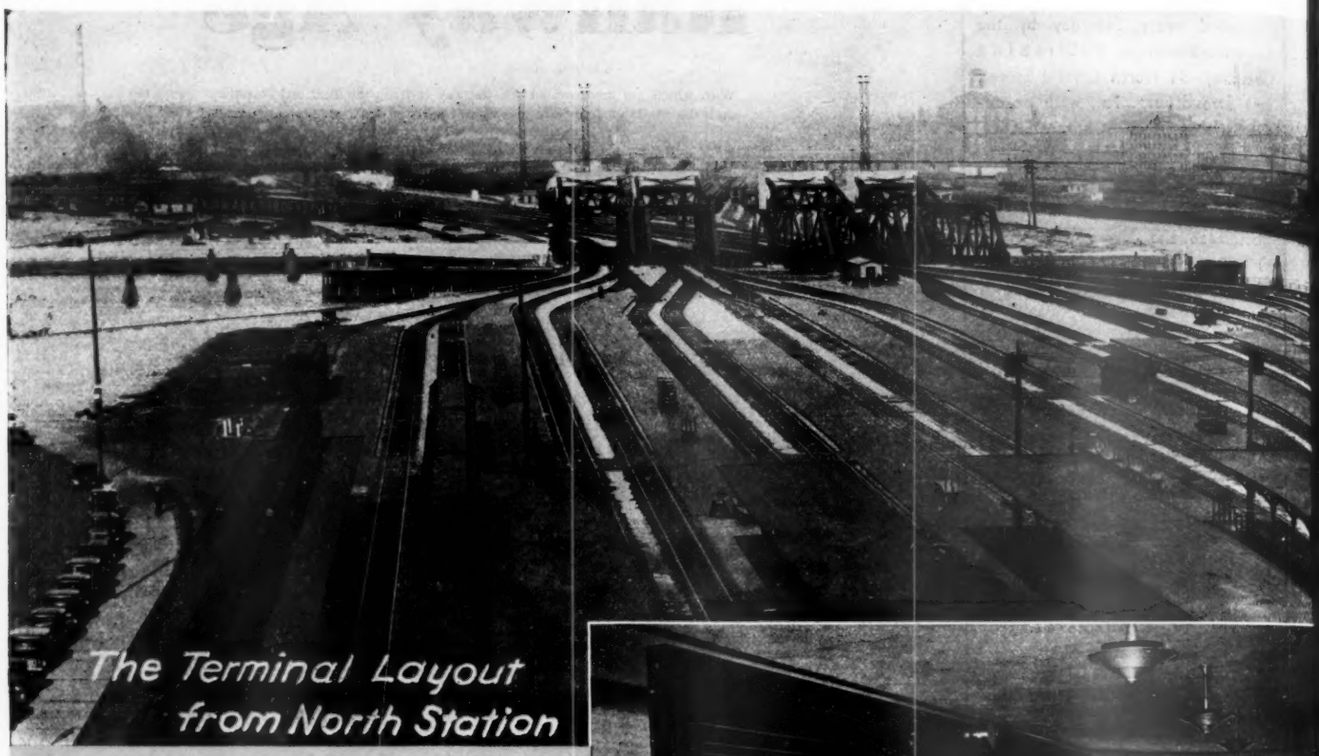
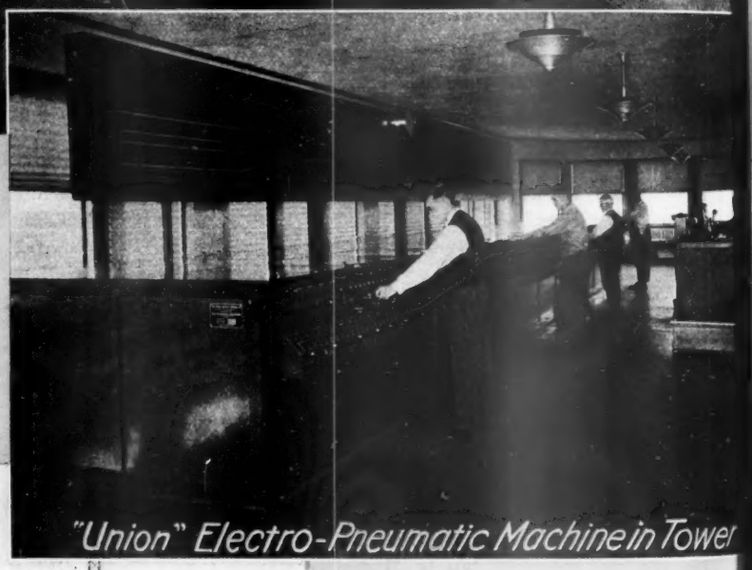


The Terminal Layout from North Station



"Union" Electro-Pneumatic Machine in Tower

Looking North near Tower "A"

RAILWAY AGE

How Shorter Day Reduces Employment

The average speed of freight trains is increasing steadily. In 1926 it was 11.9 miles per hour and in 1931, 14.8. In January, 1932, it averaged 15.3 miles per hour—an increase of 28.5 per cent over 1926. This increase, of course, was much more rapid than it would have been had traffic not declined so sharply. Nevertheless, steady, if not such rapid, improvement was being registered even before traffic declined. The accomplishment is one which must meet with general acclaim for the reason that speed is a necessary weapon in meeting truck competition. At the same time the development is giving rise to a situation which threatens the continuance of such improvement, and which all concerned should frankly face.

As we all know, train and engine service employees are paid by the mile or hour, whichever exceeds. As trains are speeded up, the result is not more train-miles per employee but simply shorter working hours, with higher earnings per hour, for train and engine service employees. If a freight train averages 30 miles per hour, as many of them do nowadays, the train crew earns its day's wages in a little over three hours. The increased speed is largely the result of improved signaling, better locomotives and track and improved operating methods. Yet a full return on investment in these facilities is impossible because train-mile output of employees is not increased by them.

Table I—Straight Time in Train Service in Nov. 1931*

	Avg. Daily Hours Straight Time Worked	Avg. Daily Hours Straight Time Paid For
Passenger Conductors	6.5	9.7
Asst. Psgr. Conductors and Ticket Collectors	5.7	8.8
Through Freight Conductors	6.1	8.2
Passenger Baggagemen	6.5	9.6
Through Freight Enginemen	5.8	7.5
Passenger Enginemen	5.6	7.7
Passenger Firemen	5.3	7.4
Through Freight Firemen	5.1	6.7
Passenger Brakemen	6.0	9.1
Through Freight Brakemen	5.4	7.3

* Hours for the month of each class of employees divided by the number in service at the middle of the month and the result divided by 26.

Why Trains Are Heavier

Nor is the disadvantage of this situation all on the side of the railroads. Unable to effect savings in train-mile wage costs, management turns to heavier trains as its only alternative. This, of course, reduces employment and curtails the frequency of service, which is in many cases undesirable in the face of highway competition. To meet this competition, train speeds should undoubtedly be further increased and frequency of service should be maintained. But can the industry afford further great improvement along these lines while wage payments are measured on the present basis?

We raise this question with a full appreciation of the situation of the employees involved. Their loyalty and efficiency are beyond question and any discussion of the matter should give full consideration to their welfare. We have no final opinion as to what change should be made to meet the situation. One railroad is endeavoring to secure agreement on the part of its train and engine service employees to a straight hourly basis of pay, with guaranteed minimum wages to all employees. Perhaps that is the answer. Perhaps all that is needed is a readjustment in the existing equation between hours and miles. In any event a situation which militates against faster and more frequent schedules, and keeps up railroad costs in the face of dangerous competition, disadvantages both the railroads and their employees and both ought to strive courageously, and in a spirit of mutual fairness, to correct it.

Table II—Percentage Ratio Which Straight Time Paid For But Not Worked Bears to Total Straight Time Payments in Through Freight Service

Year	Conductors	Brakemen	Enginemen	Firemen
1926	13.0	13.2	12.0	12.0
1927	14.6	14.7	13.4	13.6
1928	16.7	16.8	15.2	15.5
1929	17.8	17.9	16.2	16.5
1930	21.1	21.3	18.9	19.4
1931	25.1	25.2	22.3	22.6

Six-Hour Day Already Here

The six-hour day with pay for eight hours is, apparently, the principal policy advocated by the employees' organizations for meeting the unemployment problem. For some classes of employees, this goal, or something very close to it, has without formal recognition already been achieved and its effect is proving a serious hindrance both to the railways and their employees in their struggle with competitors who pay much lower wages and work

their employees much longer hours. There were 8,130 passenger conductors in service at the middle of last November, a typical recent month. These employees during the month worked 1,373,703 hours straight time for which they were paid for 2,046,481 straight time hours. Using 26 as the number of working days in the month, these employees averaged 6.5 hours of work a day for which they were paid for 9.7 hours. Constructive allowances and penalty overtime are omitted from these calculations, since it is not in them but in the equation of hours to miles for straight time payments that the problem lies. Through freight conductors in the same month averaged 6.1 hours actually worked per day for which they received payment for 8.2 hours—an almost ideal achievement of the goal of six hours of work with pay for eight hours. These and other classes of employees who received straight time payments considerably in excess of hours actually worked are listed in Table I.

The distinction between straight time actually worked and that paid for was first made in the Interstate Commerce Commission's wage statistics for 1926. In Table II is shown the percentage which straight time paid for but not worked bears to total straight time payments for employees in through freight service over the six-year period 1926-31. It will be noted that each year showed a steady increase and that in 1931 the proportion had risen to more than 20 per cent of the total payments.

Payments for straight time not worked to all classes of train and engine service employees totaled 73 million dollars in 1926. In 1931 they totaled 79 millions, in spite of the fact that payments for time actually worked declined from 600 millions in 1926 to 424 millions in 1931. If payments for time not worked had been reduced in the same proportion that those for time actually worked were reduced, then these payments in 1931 would have totaled 51.5 millions, instead of 79 millions—a difference of 27.5 millions—a striking figure in the face of declines all around in most other items of expense, and still greater declines in revenues.

One big point where railroads must reduce their costs in order to meet truck competition and save their employees' jobs is in the handling of high grade merchandise and manufactured goods. Yet it is precisely the trains handling this class of traffic which operate at the highest speeds, enabling their crews to earn eight hours' pay in half that time or less. If crews of these trains worked as many hours as their less fortunate fellows in slower service and in other railroad occupations, is it not at least possible that a reduction in rates might be made which would recapture much of this traffic which has been lost to trucks, thereby enabling the railways to employ more men? If eight hours of work were performed for eight hours of pay in passenger service, is it not probable that reductions could be made in rates which would attract business from the highways, resulting in increasing train mileage and more employment, instead of constant reductions which have been necessary in the past and many more of which are threatened now?

When the linotype was invented the potential production per printer was enormously augmented. Suppose, however, instead of taking advantage of this increased capacity per man, the industry had simply required its employees to set the same number of lines of type at the same payment per line as before, working a proportionately shorter day. Would the savings of this new invention have brought about the great reduction in printing costs which actually resulted, and which made printing so much cheaper that the volume of business and employment in it vastly increased? To ask the question is to answer it. But has not a somewhat similar situation developed in the railroad industry today, and is it not working fully as much to the disadvantage of the employees of the industry as it is to the owners?

Way Open to General Rate Revision

In commenting upon a recent order of the Interstate Commerce Commission re-opening *ab initio* the gasoline rate case involving Rocky Mountain territory, Thomas F. Woodlock, writing in the Wall Street Journal, says:

> "The suggestion is in plain language that in present circumstances of the railroad industry 'worth of service' is the dominant factor in determining the maximum reasonable rate. Putting it in another way, the true maximum reasonable rate on gasoline today is *that rate at which the volume of traffic moving under that rate will produce a maximum revenue for the carrier.* And what is true of gasoline is true of every other commodity moving by rail. And the entire rate structure of the United States should be overhauled to give effect to that principle."

This Is the Kind of Letter All Officials Should Get Nowadays

To the Editor of the Evening Post:

Sir:—Upon reading Governor Roosevelt's statement in last night's Post, advocating the construction of both the St. Lawrence and the All-American waterways, we sent him the following telegram:

> Gov. Franklin D. Roosevelt,
> St. Paul, Minn.
> Dear Gov. Roosevelt:
> We know of no easier way to spend the taxpayer's money than to construct inland waterways at his expense. We have read your statement advocating both the St. Lawrence and All-American canals. We suggest you might also carry Pennsylvania by advocating a waterway across the Appalachian Mountains to connect the Delaware, Susquehanna and Alleghany Rivers with Lake Erie. This would put at least two more railroads out of business.
> M. C. SMITH,
> J. M. MCILVAINE,
> E. A. NOYES.
> Columbia Law School,
> April 18, 1932.

—From the New York Evening Post, April 25.

Railroad Loan to Keep Schools Open

Those members of Congress and others who have been howling because the government has been loaning money to banks, railroads and other financial institutions instead of extending direct relief to individuals might find some interesting reading in the Interstate Commerce Commission report approving a loan of $1,800,000 to the St. Louis-San Francisco. Of this amount $1,620,777 is to pay taxes due the states of Alabama, Kansas and Missouri and subdivisions thereof as to which suits for collection or attachment proceedings have already been instituted in a number of counties. The commission points out that the company "is the largest taxpayer in many counties in which it owes taxes, and such counties are so dependent upon the payment of the applicant's taxes that, unless paid, the counties will not be able to take care of their obligations. Moreover, the operation of the schools in these counties is dependent upon the payment of these taxes and, unless paid, the applicant is advised that it will be necessary to close them."

However, the commission is not just blindly proposing to use federal government funds to keep open the schools of Alabama, Kansas and Missouri without some assurance that the money will be repaid by the Frisco. With its approval the Reconstruction Finance Corporation has already loaned the railroad $2,805,175 to meet interest obligations due in February and March, which loan is to be taken over by the Railroad Credit Corporation, and both government bodies have indicated a willingness to make the additional loan of $1,800,000 but on condition that the company agree to submit for the approval of the commission, prior to July 1, a plan to effect a substantial reduction in its fixed interest charges.

In some quarters this condition has been interpreted as a move to force a receivership and reorganization of the Frisco, but if that was the commission's purpose it would hardly have proposed first to make a loan to the company secured by junior bonds and it is not to be assumed that the Railroad Credit Corporation has agreed to loan the company $2,805,175 in the face of a threatened receivership. The corporation is not authorized to make a loan "to a carrier which, with the aid of the loan from the corporation, would still be unable to meet its fixed charges or to avoid a default." The logical inference, therefore, since the loan is to be made upon agreement to present a plan, not after it has been put into effect, is that the commission is looking beyond July 1 and is prepared to help the railroad to bring about the reduction in its fixed charges. The commission in its report points out that during the 11-year period, 1921 to 1931, the company had earned an average of 1.74 times its fixed charges and that its bonds were accepted as legal investments as defined by the Banking Department of the State of New York.

The company's present need of government assistance has been rather suddenly precipitated. In addition to the effects of the general business depression it suffered adverse weather conditions in its territory last year and its traffic was especially affected by droughts and bank failures and by the oil proration plan. It has submitted to the commission estimates for the future indicating a considerably improved situation if its immediate requirements can be met.

The Vagrant Truck

David J. Evans, who has worked hard hereabouts for more rigid regulation of commercial trucks, came in to see us the other day about some paragraphs we had written about the pending Couzens bill to regulate trucks in interstate hauling. Evans thinks the Couzens bill is totally inadequate. Other observers say it is no more than an entering wedge for truck regulation.

Evans tells me that not only interstate, but stricter intrastate regulation of trucks is imperative. He is convinced the greatest menace to the legitimate trucker is the so-called "tramp" truck, which roves from state to state, picking up business wherever it can be obtained.

These "tramp" trucks readily find loopholes in the state laws that permit them to engage in both intrastate and interstate hauling. Usually they have agents in the large cities who engage loads for them. A Clevelander tells me of ordering two trucks in Toledo to move some household effects to Cleveland. When the trucks came one bore an Indiana, the other a Tennessee license. The drivers said they were driving Ohio trucks, but had been in Indiana and Tennessee on Jan. 1, and had bought license plates in those states.

Actually, they were tramp movers, happening to be in Toledo from Indiana and Tennessee, contacted their local agent, and got a moving job to Cleveland. Next day in Cleveland they might move somebody to Pittsburgh. Like tramp printers, they range the broad land, practically unmolested by state laws.

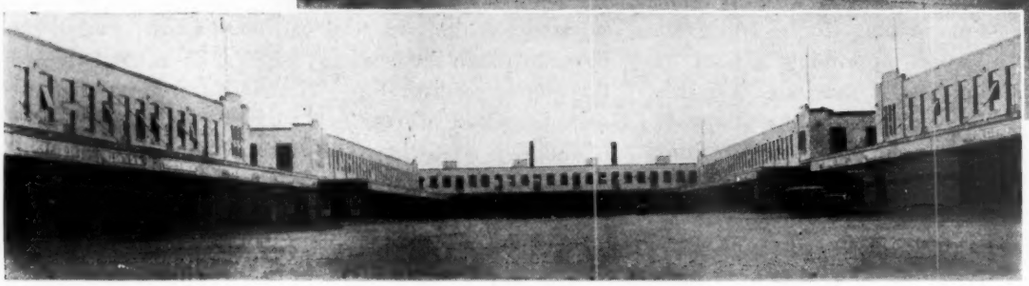
It is easy for states to enforce their regulatory measures on trucks operating a regularly scheduled service, but it is not easy to control the casual operator—usually the moving van. Out of more than 400 truckers and movers listed in Cleveland, I am told only about 125 are certified by the state to engage in interstate hauling. But you may call almost any of the 400 concerns and they will take a load destined for anywhere in the United States.

The result is a haphazard, unregulated, insecure operation. Drivers oftentimes fall asleep and cause accidents after long hours on the road. A driver for one company fell asleep on the outskirts of Cleveland on February 6, causing an accident in which one man was killed. Rates are anything the operators wish to make them, "wildcatters" cutting the rates which the higher class concerns attempt to maintain.

Is it any wonder the railroads protest? Subjected themselves to the strictest of state and federal regulation, they see their competitors bound by practically no regulation. The reputable truck lines would welcome real regulation because it would curb the "wildcatters." It seems to us inevitable that state and federal authority over the trucks must be extended.

—Dale Cox in the Cleveland Plain Dealer.

Below—General View Over One of the Wide Paved Areas, Showing the Four Fresh-Produce Buildings on the Right and Left and the Butter - and - Egg Building in the Distance



Above — A View of the Produce Buildings Fronting on Clinton Street

Erie and Nickel Plate Develop Large Produce Terminal at Buffalo, N. Y.

Local merchants are afforded extensive yard facilities and individual quarters in six buildings for storage, display, sale and office purposes

CO-OPERATING with the produce interests of Buffalo, N. Y., in the handling of fresh fruits, vegetables, dairy products and poultry, the Erie and the New York, Chicago & St. Louis (Nickel Plate), have jointly developed for that city a large modern food and produce terminal which is being used by these and other roads entering Buffalo, and which brings together in one modern layout, facilities which were heretofore inadequate and widely scattered. The new terminal is located at Clinton street and Bailey avenue in the eastern part of the city on a 60-acre tract of land acquired for the purpose.

The terminal differs in many respects from other important produce terminals constructed in recent years in the East. It consists essentially of a six-track receiving yard, a fan-shaped layout of 16 tracks served by driveways and platforms for the delivery and inspection of produce and poultry, and a group of six two-story fireproof buildings, with storage, display, sales and office space, these including four fresh-produce buildings, a butter-and-egg building and a live-poultry building. There are also an incinerator plant at the terminal with a capacity of 25 tons a day, a 20-ton truck scale and a large modern garage for the use and convenience of the trade. All of the units, with the exception of the garage and incinerator, are located directly beyond the stub end of the produce yard and are separated by wide areas of concrete paving which have direct connection with the concrete driveways throughout the yard, and with two through paved streets on the south and west sides of the terminal layout. An important auxiliary to the terminal is a large farmer's display and sales market which has been established directly across Clinton street, at the west end of the terminal.

Future plans for the terminal contemplate the construction of a number of additional inspection, icing and hold tracks by the railroads, as conditions require, and the addition of a number of produce handling facilities by the produce trade. These latter facilities will include two additional produce display and sales buildings, additional units to house packers, wholesale grocers and other allied trades, and a cold storage warehouse.

Large Trackage Provided

In the yard layout at the terminal, which extends in a general east and west direction, the tracks may be said to be grouped into four units, a poultry handling unit on the north side, and two team or delivery units, separated by a group of inspection, icing and hold tracks. There are four tracks at present in the most southerly group of tracks, two center tracks spaced 13 ft. center to center, and two outside tracks, each 56 ft. from the nearest center track and separated from it by a 46-ft. reinforced concrete driveway. Provision has been made in this unit for three additional tracks and a 46-ft. driveway on the south side of the present layout, and for two additional delivery tracks and another 46-ft. driveway on the north side of the layout. Concrete booths are provided at the west ends of the present team track driveways to afford shelter for checkers in inclement weather.

Immediately north of the location reserved for future delivery tracks, provision has been made for 12 inspection, icing and hold tracks, spaced alternately on 18-ft.

and 20-ft. centers. Four of these tracks are in service at the present time, each served on one side by a 10-ft. macadam driveway and on the other by a 6-ft. timber inspection platform of car-floor height and located on 18-ft. track centers.

North of the area set aside for future inspection and hold tracks is another group of team delivery tracks, this group including six tracks at present, grouped in twos, with each pair of tracks separated by a concrete driveway, 46 ft. wide. The most northerly of these tracks, throughout a length of 160 ft. at its west end, is served on one side by a concrete poultry platform, at car floor height. This platform, which is covered throughout, is 15 ft. wide and is piped with water for watering poultry.

Three other tracks immediately north of the poultry platform are used primarily for the handling of poultry and butter and eggs. These tracks extend farther to the west than the other tracks of the yard and provide direct service to the poultry and butter-and-egg buildings.

In the present produce yard are 46 turnouts and approximately 43,000 lin. ft. of tracks. The capacity of the receiving tracks is 198 cars; of the team delivery tracks, 236 cars; and of the hold, inspection and icing tracks, 133 cars. Ultimate plans for the terminal facilities provide for increasing the capacity of the team delivery tracks to 405 cars, and that of the hold, inspection and icing tracks to 353 cars. All of the present tracks are constructed of 100-lb. relay rail, except the ladders and leads, which are constructed of new 110-lb. rail. Two floodlight towers near the east end of the yard light the ladders and yard tracks for night switching operations.

Six Produce Buildings at Present

At present there are six independent produce buildings at the terminal, each serving a specific branch of the food industry and forming a complete market in itself with storage, display, sales and office facilities. Four of these buildings, designated Nos. 2, 3, 4 and 5 on the plan, are of similar construction and are given over entirely to the requirements of the produce trade. These buildings are two-story structures, with basements, and are of reinforced concrete construction, faced with brick, except for the roofs, which are of timber sheathing and steel beam construction, supported on steel columns. Two of the buildings are 290 ft. long by 70 ft. wide, while the other two are 242 ft. long by 70 ft. wide. All four buildings are divided transversely from basement to roof into a series of equal size units, 24 ft. wide, for occupancy by individual produce merchants. Each is separately equipped even to the extent of having its own heating and lighting systems, lavatory, and cooling or refrigerating facilities.

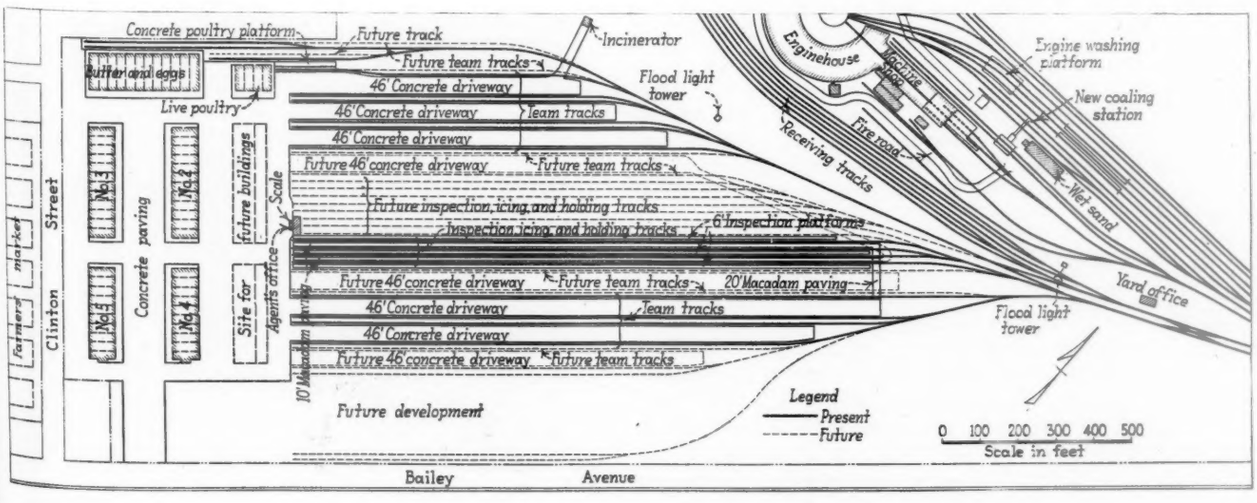
Sales and Display Areas

Each unit provides a display and sales area of approximately 1,600 sq. ft. on the main floor, a somewhat larger storage area in the basement, which extends out beneath the pavement in front of the building, and a second floor area for offices and the transaction of routine business with customers. In all the buildings, adjacent pairs of units are equipped with joint stairways to the basement and second floor, and jointly used freight elevators, both the stairways and the elevators being located in line with the dividing wall between the units. In Buildings 2, 3, and 5, the elevators serve both floors and the basement, while in Building 4 they operate only between the basement and the first floor.

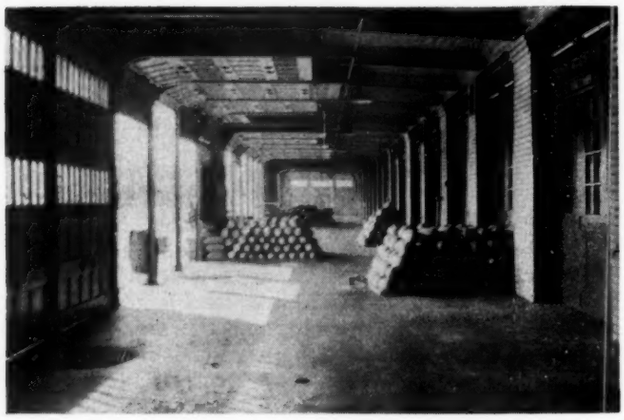
Truck deliveries to the buildings can be made on both sides throughout their lengths, but, ordinarily, most of the trucking is done on the east side of Buildings 2 and 4, and the west side of Buildings 3 and 5, where the main floors of the buildings are at tail-board height. These sides of the buildings are equipped with vertical lift doors, which can be rolled into the clear overhead, leaving the doorways entirely unobstructed, and are provided with canopies which extend eight feet over the driveways. The doors, of which there are two to each store unit, are nine feet wide and are provided with large areas of sash to afford daylighting within the buildings.

On the west side of Buildings 2 and 4 and the east side of Buildings 3 and 5, wide platforms at the main floor level are provided to afford additional display areas, which are covered in each case with a canopy which extends 15 ft. 8 in. from the face of the building. To make this additional space suitable for use during the winter and in inclement weather, the areas directly beneath these canopies are entirely enclosed on the front by a continuous series of vertical lift doors, eight feet wide, similar to those on the delivery sides of the buildings. The ends of the platform display areas are permanently closed-in except for a pair of double swinging doors for use when the canopy front doors are down.

With the prospect of need for additional produce



General Plan of the New Erie-Nickel Plate Produce Terminal at Buffalo



Looking Through the Canopy-Covered Display Platform of One of the Produce Buildings

buildings at the terminal, the present layout provides space for two more such buildings, to be constructed immediately between Buildings 2 and 4 and the west end of the produce yard. These additional buildings will provide facilities for approximately 20 more produce merchants and also space for a terminal agent's office, which, at the present time, is located in a small steel building directly at the west end of the group of hold, inspection and icing tracks.

The butter-and-egg building at the terminal is located directly opposite the north ends of Buildings 2 and 3, and in line with the yard tracks. This building, which is 290 ft. long by 100 ft. wide, is a two-story unit, with a basement, of practically the same type of construction as Buildings 2, 3, 4 and 5. Like these buildings, it is divided into individual units, or stores, 24 ft. wide, and is fitted on its south side with a wide, covered and enclosed platform. The north side of this building, which is served by two parallel tracks, is provided with a six-foot platform, covered by a canopy to afford protection to unloading operations.

The poultry building, which is 98 ft. long by 70 ft. wide, is located directly east of and in line with the butter-and-egg building. This building, which provides only four store units, is practically identical in construction with the butter-and-egg building, having a display platform on its south side and a track delivery platform, covered by a canopy, on its north side. It is also served by the poultry unloading and watering platform mentioned in connection with the yard layout.

As noted on the plan, all of the areas between the different buildings at the terminal are paved with reinforced concrete, and have direct connection with both Clinton street and Bailey avenue, through thoroughfares along the west end and south side of the terminal, respectively. These large areas of paving not only greatly facilitate trucking and parking within the terminal, but also make it possible to keep the terminal area sanitary and clean.

General Features of Operation

In the operation of the terminal, practically all car movements are made late in the afternoon or at night, except the receipt of cars in the receiving yard. The railroad agent at the terminal, who is notified promptly of the arrival of all cars, informs the different consignees, and upon their orders has the cars reconsigned and forwarded to other points or set on the proper tracks at the terminal, depending upon the character of the produce and whether it is for inspection or icing, or for immediate sale and delivery.

Cars to be held, or for icing or inspection, are set out on the tracks intended for these purposes. In the cases where the produce is to be inspected, the cars are opened by the consignees or their agents, who attend their shipments and deal with the local buyers who pass between the cars on the inspection platforms provided. Icing of the cars is done by trucks with elevators. These trucks have access to all cars in the inspection and hold unit of the yard over the 10-ft. macadam driveways provided between alternate pairs of tracks.

Cars, the contents of which have been sold, or other cars of produce for which there is a ready market, are set on the team delivery tracks. In some cases the merchants move the produce directly into their quarters in the produce buildings for sale and delivery, but the customary practice is to bring samples only to the sales rooms and then make deliveries direct from the cars. Practically all sales at the terminal for immediate delivery are made early in the morning, and before noon practically all cars on the team tracks have been emptied. Poultry and butter and eggs are handled exclusively on the tracks assigned for these classes of shipments and are either sold direct from the cars or are taken into the building units occupied by the poultry and dairy produce merchants.

All of the work at the terminal, which, in addition to the construction of the buildings and yard facilities, included approximately 48,000 cu. yd. of grading, the laying of approximately 279,000 sq. ft. of 8-in. reinforced concrete paving, the installation of a complete system of drainage, the removal of the Erie's engine terminal coaling facilities from the site and the construction of new modern coaling facilities directly within the engine terminal area itself, was done under the general supervision of the Erie and the Nickel Plate, the Erie handling the yard and coaling station work principally, and the Nickel Plate that part of the work west of the west end of the yard and including the produce buildings. The work carried out by the Erie was done under the direction of G. S. Fanning, chief engineer, and C. H. Splitstone, engineer of construction, while that for the Nickel Plate was done under the direction of H. H. Hampton, vice-president in charge of industrial development.

Architectural and engineering details in connection with the terminal facilities were handled by Geo. S. Rider Company, Cleveland, Ohio, while all actual construction work, with the exception of the track work, the incinerator, and changes in the coal handling facili-

Looking Through the First Floor of One of the Individual Produce Units in One of the Produce Buildings

ties, were handled by John W. Cowper Company, Buffalo. The track work was done by the Erie's track forces.

Operation of the new terminal is carried on by an association of the produce merchants of Buffalo under the name of the Niagara Frontier Food Terminal, which association has taken over full ownership and control of that part of the terminal west of the yard facilities.

Freight Car Loading

WASHINGTON, D. C.

FREIGHT car loading in the week ended April 30 amounted to 554,012 cars, a decrease of 8,368 cars as compared with the week before and of 220,730 cars as compared with the corresponding week of last year. As compared with 1930 this was a decrease of 388,662 cars. Loading of grain and grain products and forest products showed small increases as compared with the week before. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

Revenue Freight Car Loading

Week Ended Saturday, April 30, 1932

Districts	1932	1931	1930
Eastern	134,119	184,137	220,015
Allegheny	113,322	160,070	195,550
Pocahontas	34,304	42,557	53,890
Southern	83,380	118,327	137,678
Northwestern	63,181	93,425	132,229
Central Western	81,508	110,039	128,746
Southwestern	44,198	66,187	74,566
Total Western Districts	188,887	269,651	335,541
Total All Roads	554,012	774,742	942,674
Commodities			
Grain and Grain Products	32,741	36,925	39,067
Live Stock	19,626	23,800	25,882
Coal	91,050	122,172	148,115
Coke	3,017	7,510	10,909
Forest Products	19,942	33,807	57,046
Ore	2,996	10,977	32,396
Mdse. L.C.L.	185,023	227,132	250,862
Miscellaneous	199,617	312,419	378,397
April 30	554,012	774,742	942,674
April 23	562,380	758,503	906,879
April 16	566,729	759,494	892,706
April 9	544,806	737,272	911,316
April 2	544,961	727,852	908,059
Cumulative total, 17 weeks	9,568,760	12,402,121	15,055,063

The freight car surplus for the period ended April 14 averaged 727,434 cars, an increase of 22,687 cars as compared with the previous period. This included 364,538 box cars, 290,097 coal cars, 31,238 stock cars and 14,287 refrigerator cars.

Car Loading in Canada

Car loadings in Canada for the week ended April 30 amounted to 41,742 cars. This was an increase over the previous week's loadings of 53 cars, but less than the normal seasonal increase, and the index number dropped from 72.58 to 72.47. Merchandise loading increased in both divisions, the total of 14,661 cars being greater than for the previous week by 205 cars, but the index number dropped from 83.42 to 83.11. Compared with loadings for the seventeenth week last year, the totals were down by 6,511 cars in the east and 2,354 cars in the west.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada		
April 30, 1932	41,742	21,098
April 23, 1932	41,689	21,635
April 16, 1932	41,509	21,637
April 25, 1931	50,607	30,638
Cumulative Totals for Canada		
April 30, 1932	699,988	368,312
April 25, 1931	802,205	478,722
April 26, 1930	964,663	622,536

Block Signal Mileage, 1932

THE Interstate Commerce Commission has issued its annual tabulation of block signal mileage, etc., as of January 1, 1932. This report comes out about four months earlier than last year, the tables for January 1, 1931, having been reported in the *Railway Age* of September 26, last.

The aggregate total number of miles of road shown as signaled, in this and the three preceding bulletins appears as follows:

	1932	1931	1930	1929
Automatic	63,530.6	62,726.0	60,162.0	56,488.6
Non-Automatic	52,792.7	54,144.0	55,551.7	58,755.9
Total	116,323.3	116,870.0	115,713.7	115,244.5

The net decrease in the length of road signaled, 546.7 miles, results from an increase of 804.6 miles, automatic, and a decrease of 1,351.3 miles non-automatic. This increase in automatic mileage compares with an increase of 2,564 miles shown on January 1, 1931, and of 3,673 miles one year before that.

The table of notable changes in the year indicates such increases on 27 roads and the total is over 800 miles.

There are a few increases in non-automatic block signaling—C. M. St. P. & P., 43 miles; C. C. C. & St. L., 94 miles; Michigan Central, 32 miles; Norfolk & Western, 78 miles. The 17 "notable" items showing decreases in non-automatic include, no doubt, considerable lengths of road on which the operation of passenger trains has been discontinued, thus removing such lines from consideration in this report, which primarily deals only with passenger lines.

The total length of road on which visual cab signals are in operation, 3,855 miles, is 50 miles more than in the preceding report; 39 miles on the Chicago & North Western and 11 on the Pennsylvania.

From the table showing kinds of automatic signals in use, it appears that the total mileage of color-light signals, 19,162, is 1,050 miles greater than in the preceding report. Position-light signals, 2,905 miles, record an increase of 108 miles during the year. Color-position-light signals (included in the foregoing) total 658 miles; increase, 128 miles.

The table showing automatic train control shows no important changes from the preceding year. [Since January 1, the Great Northern has been authorized to discontinue the operation of automatic train control.]

Railroad grade crossings and gauntlets protected by automatic signals without interlocking, show a few increases over the preceding year; A. T. & S. F.; C. & N. W.; C. M. St. P. & P.; Mo. Pac.; N. Y. C.; and N. P.

Centralized traffic control is now in operation on 893 miles of road as compared with 554 miles on January 1, 1931; number of passing sidings, 177, as compared with 111; switches, 725, as compared with 344. Of the 27 roads appearing in this table, 12 have more than one section each. The Boston & Maine has 11 sections; C. B. & Q., 6; Missouri Pacific, 4.

The table showing remotely operated switches gives a total of 396 control points, a small increase.

The telephone is now in use for the transmission of train orders on 154,462 miles of road, a slight increase over January, 1931. As in former reports, it appears that a considerable number of roads report the use of both telegraph and telephone for train dispatching on the same section. On 18 roads of considerable length—from 200 miles each to 1500 or more—the train dispatchers still use the telegraph exclusively.

Is I. C. C. Stupid and Derelict?

An answer to Chairman Porter's assertion that criticisms of I. C. C. are "glittering generalities"

By Horatio L. Whitridge

Part I

IN the *Railway Age* of March 26, there appears an article "A Reply to Critics of the I. C. C.," being a report of an address by Claude R. Porter, chairman of the Interstate Commerce Commission. The opening paragraph and subsequent paragraphs contain the following:

> It seems to be quite fashionable and the proper thing to do, whenever discussing the present unfortunate status of our railroads, to shy a not inconsiderable number of verbal brickbats at the Interstate Commerce Commission. All that is said and written along this line about the commission at the present time deals only in glittering generalities and never descends to specific particulars. In all of these onslaughts there is seldom, if ever, named or pointed out the definite thing that the commission has done or failed to do.....
>
> The nearest any of the critical persons come to dealing with definite things, so far as I have observed, is in two suggestions, which are quite generally made, with one of which the commission had nothing to do. With respect to the other, I frankly admit, it must accept full responsibility.
>
> The first suggestion commonly referred to is that the railroads are subject to an overdose of regulation. With this, of course, the commission has nothing to do.....
>
> The second fundamental fact to have in mind, in addition to the present economic status generally, is that with the railroads this present depression differs from every other one through which they have passed on their 100 years of history. For the first time they are confronted with four vigorous and aggressive competitors.

It is strange that the Interstate Commerce Commission should be so self-satisfied that it should view all criticisms of its activities as mere "glittering generalities," unsupported by fact, and it is almost inconceivable that the chairman should state that the Commission has nothing to do with the question as to whether the railroads are subject to "an overdose of regulation."

Does I. C. C. Control Scope of Regulation?

The Interstate Commerce Commission had been given the greatest latitude by Congress in the exercise of its regulatory powers. The Commission has had the widest choice as to the direction its activities should take, and has continually pointed out that under the law its functions cannot be reduced to that of an automaton.

In "Reduced Rates 1922, 68 I. C. C.," in referring to Section 15a of the Transportation Act, having to do with fixing of "just and reasonable" rates, the Commission said:

> Our function under the law is not that of mere computers and can not thus be atrophied.

The tremendous latitude for the exercise of its own judgment that the Commission enjoys is best expressed in the Commission's own language, in a letter from Commissioner Eastman to Senator Couzens, chairman of the Committee on Interstate and Foreign Commerce, dated January 21, 1931:

> Within six months after the enactment of the Transportation Act, 1920, we approved very large horizontal increases in rates designed to provide the return contemplated by section 15a upon our estimate of aggregate value. Business and traffic conditions were then good. Soon afterwards a depression set in, so that the return was not realized. Two years later in 1922, after conditions had begun to improve but while the return of the railroads was still deficient, we ordered a 10 per cent reduction in rates.....
>
> It will be noted that we found it necessary to take into consideration existing industrial conditions and the effect of freight rates on the movement of traffic, and to forecast the future as best we could. On the evidence before us, we did not feel warranted in determining the general level of rates in any automatic way by the mere application of a mathematical formula to the then existing earnings of the railroads.
>
> In general, the results which followed justified, we believe, the conclusions then reached. In the ensuing years, up to the beginning of the financial depression in the fall of 1929, the earnings and credit of the railroads in most sections of the country steadily improved, so much so that considerable financing was done through new issues of stock. Nevertheless, the aggregate earnings in the country as a whole, and in general in the various groups, did not rise to the level contemplated by the statute, even on the basis of our estimates of aggregate value, which did not reflect in any substantial measure the current costs of reproducing the existing railroad properties. The continued improvement in railroad earnings and credit, however, was sufficiently reassuring so that we did not feel warranted in initiating or approving any further horizontal increases in rates.

Thus it would seem that the Commission, during the past decade, took upon itself to fix the earning power of the railroads on its estimate of their value, basing their rate structure not on the letter of the law, but on a "forecast of the future" and improvement in railroad earnings and credit "sufficiently reassuring."

Competitive Transport Not New

Had the railroads been allowed to earn a "fair return" on a fair value during the decade 1920-1929, their present plight could not be blamed upon the Commission, but in view of the Commission's own statement as to its own activities over this ten year period, it seems rather ridiculous for Commissioner Porter to state, in reference to regulation, "with this, of course, the Commission has nothing to do."

As to the "second fundamental fact," namely that of competition, Commissioner Porter says in his address:

> For the first time they are confronted with four vigorous and aggressive competitors. In every other depression, the railroads had a monopoly of whatever traffic was actually moving but not so in the present one. We are in the midst, apparently unnoticed by many, of not an evolution but a revolution in transportation.

The inland waterways were in existence prior to the advent of the railroads; the pipe line has been a continuous development since oil was first discovered in Pennsylvania in 1859; the automobile became an important transportation factor at least twelve years ago.

Back in 1922, the Commission itself used the competition from "other forms of transportation" as one of the reasons for ordering a 10 per cent reduction in freight rates, and yet the Commission seems to be included among those by whom the "revolution in transportation" was "apparently unnoticed."

The Interstate Commerce Act, passed in 1887, contains the following mandate:

"SECTION 12 (1) That the Commission hereby created shall have authority to inquire into the management of the business of all common carriers subject to the provisions of this Act, and shall keep itself informed as to the manner and method in which the same is conducted, and shall have the right to obtain from such common carriers full and complete information necessary to enable the Commission to perform the duties and carry out the objects for which it was created; and the Commission is hereby authorized and required to execute and enforce the provisions of this Act."

Slow to Realize Motors' Threat

This section of the Interstate Commerce Act would seem to require that the Commission keep itself informed of the changes and developments in the "other forms of transportation," and it should have been obvious to the Commission that it could not properly carry on its duties without knowing all that could be learned about the sums of money that were being spent by the railroad competitors and the effect that this would have upon the tonnage available for rail transportation, and yet up until the end of 1931, at least, the Commission apparently lacked much vital information, for in its Annual Report to Congress, December 1, 1931, appears an admission that the Commission was ignorant of the fact as to whether the "other forms of transportation" have an unfair advantage, because of government subsidies, its words being:

As to the facts there is no agreement, and the claims made with respect to these alleged subsidies are vigorously disputed. We are not in possession of the facts and therefore can not report them to Congress.

However, quite recently, the Interstate Commerce Commission has issued a report, No. 23400, "Coordination of Motor Transportation," submitted March 2, 1932, decided April 6, 1932. This bulletin has the following preface:

1. That transportation by motor vehicles, buses, and trucks, over the public highways is within certain distances and in certain respects a superior service, and that the rail and water lines should be encouraged in the use of this instrumentality of commerce wherever such use will promote more efficient operation or improve the public service;
2. That there is substantial competition between rail and water carriers on the one hand and motor carriers on the other for the transportation of both passengers and freight and that this competition is increasing;
3. That such competition is conducted under conditions of inequality, particularly in regard to regulation;
4. That a contributing cause, aside from the general business conditions, of the present unsatisfactory financial condition of the railroads is the existence of unrestrained competition by rival transportation agencies;
5. That there is today, and probably would be under normal conditions, an excess of carrying capacity of existing transportation facilities;
6. That unrestrained competition is an impossible solution of the present transportation problem and is incompatible with the aim of coordination under regulation;
7. That federal legislation relating to the regulation of motor vehicles operating upon the public highways and engaged in interstate commerce is desirable in the public interest.

Much money might have been saved to the American people had the Commission discovered sooner that "federal legislation relating to the regulation of motor vehicles operating upon the public highways and engaged in interstate commerce is desirable in the public interest," for this information is in large measure contrary to their findings as reported in Volume 140, March-April, 1928:

While experience may show that the interstate transportation of property by motor vehicles operating as common carriers on the public highways should be regulated, there does not appear to be at this time public need therefor.

It is a pity that the Commission did not announce, some years ago, "that such competition is conducted under conditions of inequality, particularly in regard to regulation" and "that there is today, and probably would be under normal conditions, an excess of carrying capacity of existing transportation facilities," because in the meanwhile, at the taxpayers' expense, the War Department has been promoting inland waterways, the Post Office Department has been subsidizing air lines and the Bureau of Public Roads, under the United States Department of Agriculture, had been developing the national highways system, and all the time the Interstate Commerce Commission continued blindly to regulate the railroads as if rail transportation was a dangerous monopoly.

Under the Transportation Act, Section 15a (2), the Commission was given entire power over the rate structure of the railroads in the following language:

In the exercise of its power to prescribe just and reasonable rates the Commission shall initiate, modify, establish or adjust such rates so that carriers as a whole (or as a whole in each of such rate groups or territories as the Commission may from time to time designate) will, under honest, efficient and economical management and reasonable expenditures for maintenance of way, structures and equipment, earn an aggregate annual net railway operating income equal, as nearly as may be, to a fair return upon the aggregate value of the railway property of such carriers, held for and used in the service of transportation.

With the duties and power of the Commission over the earning power of the railroads thus set forth, it should be a shock to the American investing public and to the taxpayers who have contributed, for the fiscal years 1920 to 1932, inclusive, $89,670,000 to the operating expenses of the Commission, to read, in the Commission's decision in connection with the Fifteen Per Cent Rate Case, handed down October, 1931, the following admission:

So far as rates are concerned, it is clear that the present structure has developed under principles and theories which gave no thought to the competitive agencies of transportation which now exist.

As Chairman Porter admits that the Commission must accept full responsibility for the "second fundamental fact," namely the development of "vigorous and aggressive competitors," would it be unjust to charge the Commission with dereliction in duty, lack of foresight and stupidity?

Are Freight Rates a Burden on Industry?

In its decision in connection with the railroads Fifteen Per Cent Rate Case, decided October 16, 1932, the Commission states:

It follows irresistibly that freight rates, even now, constitute a greater relative burden upon industry than ever before, and at a time when industry has gravely impaired stamina to sustain the burden.

but in its new bulletin on the "Coordination of Motor Transportation," April 6, 1932, the following statement as to truck operations appears:

Reduced to a ton-mile basis, these costs are manifestly far in excess of ton-mile costs by rail. Operating expenses per ton-mile by rail averaged 0.745 cent in 1929, including all terminal expense, and the total cost, expressed roughly as the revenue per ton-mile, was 1.076 cents, with which may be compared costs of several cents per ton-mile by truck. To both figures would have to be added pick-up and delivery expenses..... Fundamentally it may be said that the truck industry must look to short-haul traffic in the main and to service consideration as a factor justifying operations of more of a long-haul character. This conclusion is substantiated by the experience of several common carrier truck operators who had extensive cost information and who are operating on a

well-planned basis. These operators stated that their business could not be conducted at a profit unless the rates charged averaged considerably above those charged by their rail competitors. This position becomes more significant when it is considered that the operators in question limit themselves for the most part to the higher classes of traffic.

It appears reasonable to conclude, particularly in view of the inadequacy of the financial statements of groups of truck operators, that under present conditions a very considerable part of common-carrier operations are conducted at a loss or at less than a reasonable profit and that this branch of the motor-transport industry is characterized by an instability which renders it difficult for it to adjust itself to basic competitive conditions and to demonstrate its particular capabilities.

This demonstration of greater economy and greater reliability of rail transportation as compared to that of the motor truck is based upon ton-mile figures, but there is another standard of measure which shows the extraordinarily low cost of rail transportation in relation to the value of services rendered.

Some time ago the Interstate Commerce Commission submitted a study showing the freight revenue in relation to the value of commodities transported in 1928 by Class I Railroads, reducing the same to a percentage basis. Under date of March 1932 the corresponding figures were published covering the year 1930. These figures, set forth in table form, are as follows:

	Freight Revenue	Total Value Commodities at Destination	Per cent Freight Revenue of Value at Destination
1928	$4,830,274,000	$68,261,054,000	7.08%
1930	4,206,496,000	62,090,176,000	6.77%

No compilation was made by the Commission for the year 1929, but a strikingly similar result is obtained by a different method of computation. The United States Bureau of Census estimated the total value of goods available for trade at f.o.b. point of production or import was, for the year 1929, $96,470,000,000. Taking the estimate of the Interstate Commerce Commission showing that the railroads carried, in 1929, 72.9 per cent of the commerce that moved within the continental confines of the United States, including the Great Lakes, and adjusting the value f.o.b. to value at destination by adding in the cost of transportation, it follows that the railroads carried commodities to the value of $75,151,000,000 and the railroad freight bill for 1929, amounting to $4,825,000,000 bears the relation of 6.42 per cent to the wholesale value of the commodities carried. Arranging these percentages in order, the cost of rail transportation compared to the value of commodities shows up, for the three years, as follows:

1928	7.08%
1929	6.42%
1930	6.77%
Average	6.76%

These figures represent a grand average. If there are inequalities as between specific commodities, the Commission has the power to correct them.

Rail Charges Lower Than Waiter's Tip

From these figures it appears that the railroads received, as a return for services rendered, a sum, expressed in percentages, which is less than the world-wide accepted standard for rewarding the services of the waiter for transporting a meal from the kitchen to the table.

The average haul by rail for the years 1928, 1929 and 1930 were 318 miles, 317 miles and 316 miles respectively. Reducing to a formula these percentage figures that the freight revenues bore to the value of commodities, and the mileage factor involved, it appears that the country's total railroad freight bill represented a charge for these three years of *less than one quarter of one mill per dollar of value of commodities per mile transported.*

These figures, based largely on the Interstate Commerce Commission's own studies, demonstrate that the railroads are beyond question the leaders in the field of mass production of cheap transportation, and yet by issuing the statement that "It follows irresistibly that freight rates, even now, constitute a greater relative burden upon industry than ever before," the Commission aids and abets the propaganda that railroad rates are ruinous to industry.

Is I. C. C. Incompetent to Guide Mergers?

If Chairman Porter desires other specific instances of where the Commission has failed to live up to the requirements of the Transportation Act, it might be proper to remind him of a statement by Chairman Porter himself, appearing in the "United States Daily" and quoted in the "Commercial and Financial Chronicle," November 2, 1929:

> Of the many perplexing and important questions now pending before the Interstate Commerce Commission, none is more so than that of the consolidation of railroads. This problem was first introduced into the law by the Transportation Act of 1920. In the furtherance of this new policy of Congress, it was required of the Commission that as soon as practicable, it should adopt and publish a tentative plan for the consolidation of all of the railroads of the continental United States into a limited number of systems.
>
> The Commission employed Professor William Z. Ripley, of Harvard University, to assist it in the performance of the task. After numerous public hearings and investigations on its part, and with the assistance of an exhaustive report by Professor Ripley, the Commission, on August 3, 1921, adopted and soon thereafter published its tentative plan.....
>
> The law provides that, after the hearings are at an end, the Commission "shall adopt a plan for such consolidation and publish the same." This the Commission has not done. Commencing with its annual report to Congress in 1925, and in each succeeding annual report up to and including that of 1928, the Commission suggested the impossibility of performing the duty of making a plan, and asked to be relieved therefrom.

In the above quoted statement does not Chairman Porter himself admit that the Commission is incompetent to handle the problem of railroad consolidation, and can Chairman Porter pass over as "glittering generalities" the statement of Professor Ripley, reported in the "Commercial and Financial Chronicle," when finally the Tentative Plan of 1929 made its appearance:

> The plan is to me decidedly startling and disconcerting because it does not seem to be worked out either on a basis of operating efficiency or financial equality and strength.
>
> The ideal was that a condition should be brought about under which there should be, as far as possible, even-handed competition at as many points as possible. Everybody knows that competition, not for rates but in service, produces results which are of great public interest. You cannot have effective competition except between substantial equals. A race between an eagle and a turtle is no race at all.....
>
> In short, undiplomatic as it may seem to say so, I cannot avoid the conclusion that the Commission's activities for almost a decade under the Act of 1920 with reference to consolidation have been characterized rather by economic philandering than by statesmanship. Had they taken hold of the problem manfully, and by that I do not mean rudely disturbing existing relationships, but diplomatically, much might already have been accomplished.

[*The second and concluding part of Mr. Whitridge's article will appear in an early issue.*—EDITOR]

NEW INDUSTRIES established at points along the lines of the Pennsylvania Railroad in 1931 totalled 438; and 90 established industries made extensions of their plants. As a rule, these extensions of business were on a smaller scale than in previous years.

A Heating Trailer in Service

Heating Trailers for Use With Electric Locomotives

New York Central finds that automatic operation of oil-fired train heating boilers improves efficiency and performance

THE New York Central placed in service for the 1931-32 winter season eight heating trailers for furnishing steam heat to trains handled by electric freight locomotives. These trailers were required primarily for certain mail and express trains which are operated down the west side line in New York City to Thirtieth street, but they are also used as required on passenger trains into Grand Central Terminal when these are handled by the new Class R-2 electric freight locomotives. A few of these locomotives are regularly used in passenger service to handle some of the heavier trains. These heating trailers have performed very well in this service; the boilers are worked at a higher pressure and have a greater evaporation than those now in use on the electric passenger locomotives.

The boiler equipment on the trailers operates entirely automatically once it has been started and the valve to the train line has been opened. This avoids the necessity of anyone remaining continuously in the trailers to handle the firing of the boiler. Once started they are independent of any external power supply and, as the control is operated from 32 volts d.c., they are at all times independent of third-rail power.

General Design

The trailers are of the box cab type with platforms at each end providing ready access. The underframe is a single steel casting with a cab structure riveted and welded to it. Channel iron posts and carlines form the framework of the cab. Ample hatches are provided in the roof to permit the ready removal of boiler and water tanks.

The trailers are electrically lighted by 32-volt power which is supplied either by a turbo-generator, or is fed back from the locomotive to which the trailer is connected by means of a seven-conductor train-line jumper. This jumper also carries the control of back-up lamps from the locomotive so that the engineman can operate the proper one from his position when making back-up movements. There is a back-up lamp on each end of the trailer. Several circuits used in connection with the operation of the boiler equipment are also carried in this train-line jumper.

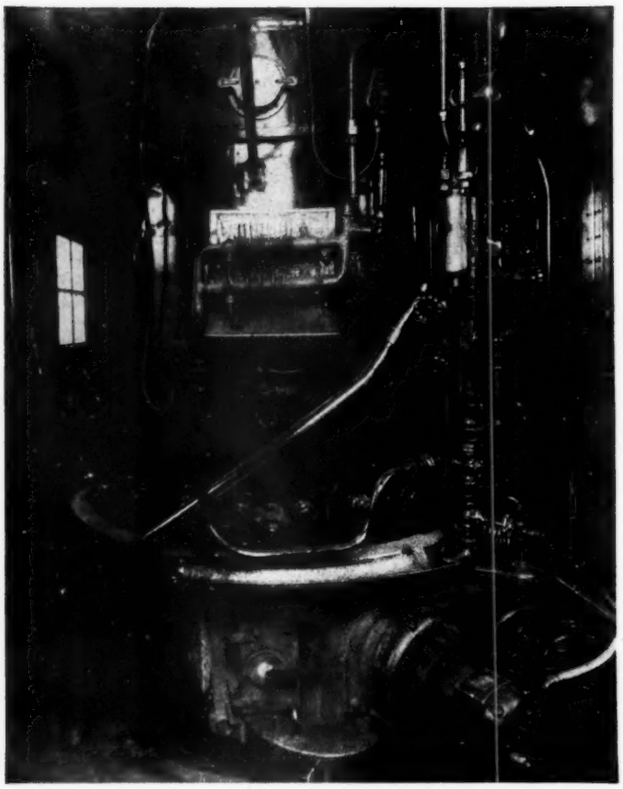
Principal Weights and Dimensions of Trailers

Length between knuckles	35 ft. 6½ in.
Width over belt rails	10 ft. ½ in.
Height over stack	14 ft. 9 in.
Height over cab	12 ft. 7½ in.
Weight, tanks and boiler empty	88,700 lb.
Weight in working order	102,200 lb.
Truck wheelbase	6 ft. 0 in.
Diameter of wheels	36 in.
Size of journal	5½ in by 10 in.
Thickness of cab sheets	⅛ in.

Boiler

The boiler is of the vertical fire-tube type using copper tubes, the upper part of which run dry in the steam space. This type of boiler has been used for many years by the New York Central and is the only type thus far developed which gives a high evaporation in a small space with a light weight.

A small superheater to serve as a steam drier, and preheating coils for the feedwater are installed in the bonnet above the top of the tubes. The firebox was increased 6 in. in depth over the present locomotive boilers. This change materially increased the evaporation.



Boiler Front Showing the Pressure Generator Which Controls the Water Level Regulating Valve

Two cylindrical combined oil and water tanks are provided with oil storage space on top and water at the bottom. They have a combined capacity of 11,000 lb. of water and 1,400 lb. (200 gal.) of fuel oil.

Two air reservoirs, each 16 in. by 60 in., are fed from the brake pipe through a choke fitting and are used for operating the steam pump on air pressure to put small amounts of water into the boiler when the steam pressure is off. They have no connection with the reservoirs used for operation of the air-brake equipment.

Boiler Dimensions and Ratings

Working pressure	155 lb.
Nominal diameter	45 in.
Height	3 ft. 11⅞ in.
Length of tubes	36 in.
No. of tubes	1,243
Size of tubes (No. 18 Stubs gage)	¾ in. O. D.
Heating surface, total	692 sq. ft.
Nominal rated evaporation from and at 212 deg. F.	2,700 lb. per hr.
Maximum evaporation from and at 212 deg. F. from tests	6,000 lb. per hr.

Automatic Control and Power Supply

The automatic control may be considered in two parts, the water level control and the fire control. Electrical power at 32 volts is required for starting the equipment and this must be supplied from an external source. As soon, however, as the boiler is in operation a steam turbo-generator of 1-kw. capacity is started up, which supplies the electrical load independently of the locomotive. A transfer relay is provided to change over automatically from locomotive power to turbo-generator power. The maximum electrical power required is approximately 800 watts.

Water is pumped into the boiler by a duplex steam pump. A maximum pressure governor and a cushion tank on the water end are provided. The governor throttles the steam supply so as to maintain the pressure at the water end substantially constant at about 180 lb.

The water level in the boiler is maintained by a Swartout pressure generator controlling a water regulating valve. A slight reduction of water level admits steam to the generator. The heat of the steam creates pressure in the generator which causes the regulator to admit more water to the boiler. As the water rises it displaces the steam in the generator. The resulting fall of pressure causes the regulator to cut down the supply of feed water.

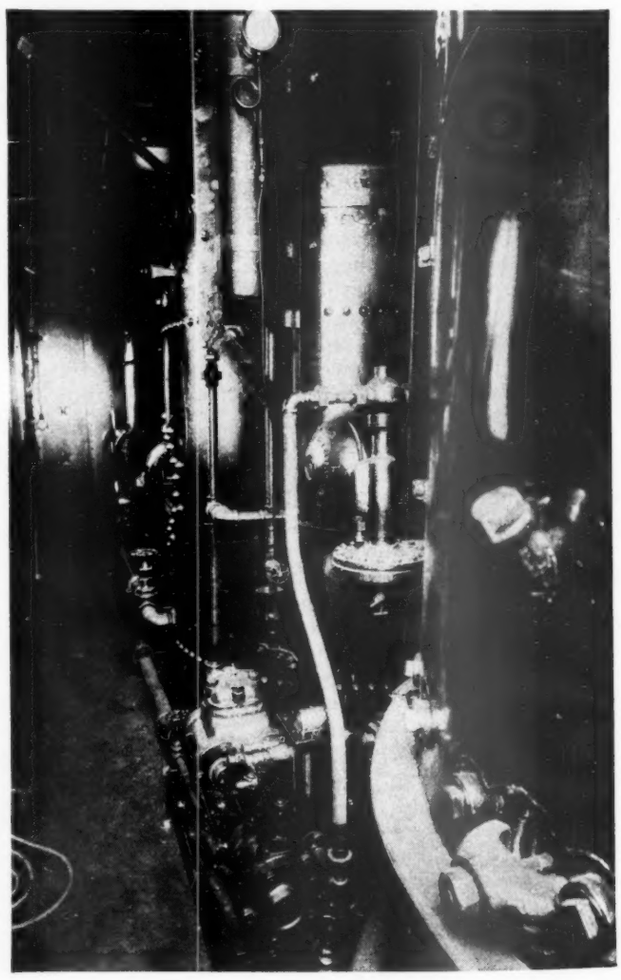
When once adjusted, this water level regulator is very accurate and will hold the water level to within ½ in. plus or minus.

A separate low-water pressure generator functions in a similar manner and when a pressure of about 15 lb. is built up in it, a pressure switch opens its contacts and shuts down the boiler.

Burner and Fire Control

The burner is of the rotary type driven by a ¼ hp., 3500 r.p.m. motor. A fan forms part of the burner and this supplies part of the air required for combustion. The larger part, however, is supplied by a turbine driven blower requiring about 8 hp. A small amount of steam is also introduced near the point of oil delivery, which has been found to assist materially in clearing up the fire.

Four degrees of fire are provided, one of which is used for starting, and the other three for running.



Aisle at One Side of the Locomotive Showing the Boiler, the Boiler Feed Pump and a Water and Fuel Tank in the Background

These latter are known as high, intermediate and low fires. The intermediate and low fires are controlled by magnet valves having key adjustments, while the high fire is controlled by a steam operated diaphragm valve responsive to pressure supplied to the turbo-blower.

Under low fire, the boiler supplies just about steam enough to operate the turbo-blower, turbo-generator and steam pump and not pop the safety valves often, without any other load on the boiler.

When the load on the boiler is such as to reduce the pressure to 145 lbs. intermediate fire connections are established and at 140 lbs. pressure high fire is cut in. The water level control in the meantime functions to hold the water at the proper level.

Safety Devices

Safety devices are furnished to protect against low water and the fire going out. The low water protection has been previously described in connection with the water level control. This device is arranged to shut down the boiler entirely should the water drop down about 4 inches below normal working level.

A pyrostat located in the boiler stack acts if the fire goes out. As long as the fire is burning it remains in the hot position. Should the fire go out for any reason, the pyrostat breaks its contacts and shuts down the boiler entirely.

Pilot lights indicate to the crew on the locomotive that the boiler is functioning properly or that it has shut down.

The data shown in the table is typical of one of the evaporation tests run on the complete equipment:

Test Performance of Heating Boiler

	High Fire	Int. Fire	Low Fire
Boiler pressure	141 lb.	146 lb.	152 lb.
Evaporation, lb. of water per hour f. & a. 212 deg. F.	5,956	2,556	1,774
Lb. of oil per hour Baumé 37.8 deg. B.t.u. 19,130	397	162	115
Ratio lb. of water to lb. of oil	14	16	15
Boiler efficiency, per cent	74	82	80
Temp. rise in preheater, deg. F.	53	38	48
Superheat, deg. F.	0	9	14
Stack temperature, deg. F.	884	494	460
Excess air, per cent	9	19	41
Turbo-blower steam pressure	114 lb.	18 lb.	18 lb.
Turbo-blower speed (r.p.m.)	3,071	1,140	1,250

The steam input to the turbo-blower, turbo-generator and steam pump was not measured but is estimated to be approximately 1300 lb. per hour when the boiler is operating in high fire and about 650 lb. when aperating in low fire.

Reasons for Automatic Operation

Aside from the desirability of having the operation of the boiler automatic in order to eliminate the necessity for constant manual attention, a number of other advantages are obtained over manual operation. The principal one is the better combustion due to the adjustment of the oil supply being fixed and not subject to possible error in judgment of the fireman. This results in better fuel consumption, better evaporation and lower maintenance due to cleaner tubes and fewer leaky ones since the firebox heat is more evenly distributed. smoking is also eliminated.

The automatic water level control also assists in reducing the boiler maintenance by keeping the tubes at a more uniform temperature. It also allows the evaporation to be materially increased. With the high evaporation rates used on these boilers, the water level must be just right to secure the maximum evaporation; a change of ½ in. above or below this level materially reduces the evaporation.

With the automatic equipment there is a great deal less blowing of pop valves, especially when standing waiting for a train to arrive. It is hard to set the fire manually so that it will be just right to forestall the pop valves blowing off and annoying passengers on station platforms.

This is also true when running and it has also been noted that there is considerably less operation of the turbo-blower at full speed than with manual operation, which increases the efficiency as well as reduces the maintenance.

In general it may be stated that enough advantages are obtained with the automatic equipment to warrant its adoption, even though here may not be any particular need of eliminating the manual supervision.

The steam heat trailers were designed by New York Central engineers and built by company forces at the Harmon Electric Shops. The boilers were furnished by the Peter Smith Heater Company, which company also furnished most of the automatic boiler equipment in accordance with designs worked out jointly with that company by New York Central engineering forces.

Substantially the same equipment has been applied to the 22 locomotives operated in the Cleveland Union Terminal. The principal reasons for the adoption of the automatic equipment were to reduce the amount of smoke and gas in the terminal which is mostly covered and to decrease the maintenance, both of which results have been accomplished. The equipment was tested out there first, one locomotive having been equipped in the spring of 1931. The requirements of operating the boilers in the Cleveland Union Terminal was the underlying reason for developing the automatic control equipment.

Annual Report, Federal Barge Lines

WASHINGTON, D. C.

THE annual report of the Inland Waterways Corporation to the Secretary of War for the calendar year 1931 shows a net operating income of $298,756, as compared with $65,177 for 1930. This is described by Major General T. Q. Ashburn, chairman of the corporation, as "most satisfactory." It represents a return of 1.23 per cent on the corporation's total investment as shown in the report and General Ashburn says that the cost of construction and maintenance for flood control and navigation on the rivers on which it operates "would be the same whether the corporation operated or not, consequently these costs are not a proper charge against the Inland Waterways Corporation."

The federal barge lines in 1931 handled 1,481,751 tons of freight, as compared with 1,424,477 in 1930, 1,575,229 in 1929, and 1,758,244 in 1928. The operating revenues were $5,465,667 for the Mississippi system, as compared with $5,348,535 in 1930, and $1,109,232 for the Warrior system, as compared with $988,627 in 1930. The net income for the Mississippi system was $331,589, against $188,119 in 1930, while the Warrior system had a deficit of $32,933, as against $122,941 the year before.

"Despite the handicaps of a stifling depression in general business," General Ashburn said, "of unprecedented low water which increased operating expenses, of organized railroad opposition intensified to bitterness, our demonstration has not only induced the pri-

vate investment of several million dollars in a common water carriage on the Ohio and Mississippi, brought about the inauguration of the operations of the Union Barge Line, the Memphis Packet Line, and smaller carriers in the cotton trade, aided and established an oil fleet on the Warrior River; encouraged the development of a fleet on the Intracoastal Canal, and cooperated with two municipalities in constructing terminals (Rock Island, Ill., and Kansas City, Mo.) for our use; but we have extended our service to the Illinois river and prepared to extend it to the Missouri river, and have handled more freight than in 1930, and had a most satisfactory net income for the year.

"In December, 1929, there were in existence upon our interior streams over 200 common carriers, 98 contract carriers, and 187 private carriers, operating 1,300 units of propelling equipment and over 4,500 barges. This number had been considerably increased by December, 1931, so there can be no reasonable doubt that as a demonstration agent the corporation has been successful. The law itself, in Public 601, Seventieth Congress, approved May 29, 1928, prescribes the necessary conditions to be fulfilled precedent to the dissolution of the corporation, and so long as that law remains on the statute books the efforts of this corporation to bring into being the conditions prescribed will continue.

"The traffic carried exceeded our expectations and was especially gratifying since we had to contend with new adverse conditions; some temporary, some permanent. The forceful gradual encroachment of truck transportation has become an important adverse factor. By far the most effective competition was the very noticeable revival of river services of private ownership.

"Early in the year the channel and operating situation on the upper river became so acute that we were forced to notify patrons of our inability to transport freight without subjecting it to serious delay. Relief was obtained too late in the season to be beneficial and tonnage suffered materially. As in all lines of business, disturbed world conditions imposed additional handicaps. Attributable solely to the general business situation, the movement of many valuable commodities was greatly curtailed and in some instances almost completely lost. I refer particularly to bulk commodities and implements and domestic automobiles.

"To partially offset the losses several new sources of tonnage were developed. The ill effects on our revenue of the reduction in base commodity tonnage were completely neutralized by the acquisition of other commodities of higher class. This is demonstrated by a comparison of revenue-per-ton figures for 1930 and 1931. Final figures for the upper division show $2.78 per ton net for 1930, and $3.21 for 1931; for the lower division $4.40 per ton for 1930 and $4.46 for 1931. Due to the heavy coal movement on the Warrior division the revenue per ton was reduced from $3.36 in 1930 to $3.14 in 1931.

"It was hoped that the year 1931 would see the opening of a large new rate territory for the upper Mississippi division. Certain areas were opened up, but not anywhere near what had been anticipated. Until the rate territory is opened to the barge line from the west and northwest to the southeast and southwest by the publication of tariffs naming joint rates with the rail carriers, the upper Mississippi division will have to depend largely on grain for export for downstream tonnage. It is confidently believed that when joint rates with the rail carriers are published as authorized under the Denison Act, a very substantial downstream business as well as an increase of the upstream business may be obtained by the upper Mississippi division of the Inland Waterways Corporation."

No separation is given in the report of the earnings on the upper and lower Mississippi although it describes difficulties on the upper river caused by the lowest stage of water ever recorded and says that "perhaps no better evidence could be presented of the great need of the immediate installation of additional locks and dams on the upper Mississippi than the record of the trips of the inland waterways steamers during the year 1931." On the lower river, however, it says that "the year 1931 was unusual from an operating standpoint, in that we had the longest period of low water on record, yet handled an increased volume of freight over the previous year, with a minimum of delays or channel interference."

Between St. Louis and New Orleans the tonnage handled amounted to 1,170,317, as compared with 1,149,864 in 1930, and between St. Louis and Minneapolis the total was 79,726 tons in 1931 as compared with 105,494 in 1930. Between Birmingport and New Orleans the tonnage was 283,872 in 1931 and 235,266 in 1930, and between Birmingport and Ensley it was 387,714 in 1931 and 357,323 in 1930. These figures include 52,164 tons of interdivision tonnage in 1931.

At the end of the year the corporation had 13 towboats and 197 barges, tugs, and miscellaneous units of equipment.

The corporation's net profit for the year was $166,991, after making deductions for expenses of the Washington office and losses on property and equipment retired from service and after including $77,365 for interest received, and the debit balance at the end of the year was $276,421.

A page in the report of the secretary-treasurer of the corporation, Guy Bartley, is devoted to answering critics who, he says, "have undertaken to mislead the public into the belief that the debit balance shown in the corporation's profit and loss account represented operating losses." He submits a summary of the corporation's profit and loss account from June 1, 1924 (the corporation was organized in August, 1924) to December 31, 1931, inclusive, showing that it includes as debits $712,766 of losses assumed on property and equipment retired, much of which represented "merely book losses on obsolete and unserviceable equipment which it acquired without expenditure of corporate funds" but was set up in its accounts at an appraised value as an investment with a corresponding credit to the government. Debits also included $408,270 as expenses of the Washington office, while the credits included $506,641 net income from operations and $337,975 interest earned on loans and bank deposits. The net income from operations for the period was, after including $3,520,339 of charges to operating expense accounts which involved no expenditure of operating funds, including $3,279,029 for depreciation, and in 1931 the corporation received from its operating subsidiaries $923,518 of which $563,287 was for depreciation.

General Ashburn also remarked that the corporation has available in the Treasury of the United States $3,000,000, representing unissued capital stock, which could be withdrawn and deposited at 3 per cent per annum, which is more than its investment in operating equipment has ever earned.

CARL GIESOW, EXECUTIVE GENERAL AGENT OF THE BOARD OF COMMISSIONERS OF THE PORT OF NEW ORLEANS, LA., has been appointed traffic director of the St. Louis (Mo.) Chamber of Commerce, effective August 1.

Rock Island Air-Conditioning the "Golden State Limited"

Four dining cars used in this de luxe train are being equipped with the A. C. F. "Thermo-Gravity" system

THE Chicago, Rock Island & Pacific, pursuing the policy recently adopted by a number of railroads in this country to provide additional comfort for railroad passengers, is now equipping four dining cars for air-conditioning. The system being installed is known as the Thermo-Gravity system, which is manufactured by the American Car & Foundry Company. The four dining cars are part of the equipment of the "Golden State Limited" train which runs between Chicago and Los Angeles, Cal. The installations are being made at the St. Charles, Mo., plant of the American Car & Foundry Company.

This order follows the initial application of this system to a St. Louis-San Francisco dining car in the early fall of 1931. This system of air-conditioning is the result of two years' development and testing by the engineering department of the manufacturer. It is designed to cool, wash and dehumidify the air in warm weather and to heat, wash and humidify the air in cold, automatically under thermostatic control.

The air-conditioning equipment consists of an ice-storage compartment, a conditioning unit which is provided with fan blowers, and washing and cooling units. Three motors are required for the necessary power. A ¼-hp. motor operates the water-circulating pump, a 1/6-hp. motor operates a pump for circulating water

The Ice Compartment Occupies Space Formerly Used for a Locker—The Push-Button Switches and Control Apparatus are Placed on the Front Panel

Interior of One of the Rock Island Air-Conditioned Dining Cars

through and out the overflow system, and a ⅓-hp. motor is used to operate the blowers. The first two motors operate intermittently, while the blower units for circulating the air operate continuously. Thus, the hourly consumption of electric current is but little more than that formerly required to operate the fans removed from the dining room.

The ice bunkers are charged with 300-lb. blocks of ice which are placed on end in the bunkers. The water leaves the ice compartment at about 40 deg. F. and is pumped from the bottom of the ice chamber to a series of cooling coils and sprays which are located in the conditioning unit. The cooling and air-washing water is then returned to the ice chamber where it trickles over the top of the blocks of ice and runs down over the ice to the bottom of the bunkers. Here it mixes with further meltage water and is again pumped through the cooling and washing systems.

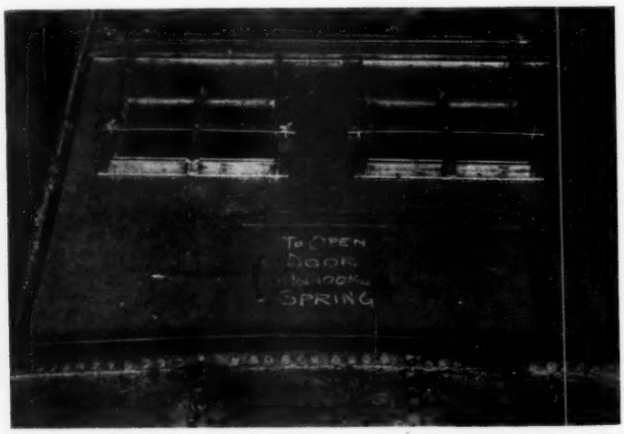
The rate of meltage of the ice is increased as the atmosphere becomes warmer. To take care of the excess water and at the same time utilize the cooling effect before discarding, a separate overflow system is provided. This overflow system, which is operated by the 1/6-hp. motor and pump, takes the excess water from the tank under the ice bunker, circulates it through a second series of cooling coils, and thence it is drained outside the car.

As shown in the diagram, outside air is taken into the car through a shuttered opening and filter. It then passes through the overflow cooling coils, spray, main-circulating cooling coils and thence to two ducts, one extending along the upper deck on each side of the car. The air is then released through side openings in the ducts into the dining room.

Air from the interior of the car is returned through a register which is located in the ceiling of the car

over the passageway between the ice bunker compartment and linen locker. This air is mixed with outside air in case the shutters are open and is recirculated through the car. The system can be operated on recirculated air only by closing the shutters.

The operation of the ¼-hp. motor which drives the primary circulating and spray pump is controlled by a thermostat and humidistat. A thermometer is also provided to indicate the temperature of the cooling water. Automatic operation of the overflow system is provided by means of a float valve and water-level control at the tank under the ice bunker, which starts and



Looking Down on the Air-Conditioning Equipment Through the Hatch in the Car Roof—The Air Filter is Shown in the Upper Left-hand Corner

stops the 1/6-hp. motor according to the amount of water in the tank.

As shown in the floor plan drawing, the ice compartment occupies space usually taken up by a saloon or locker. The length of the ice bunker compartment is dependent on the number of ice cakes required for the scheduled run. The cooling coils, spray and spray tank, and blower fans are located above the ceiling in the end of the car opposite the kitchen.

No underframe parts of the car are disturbed and no additional electric generating apparatus is necessary in connection with the installation of this equipment. The ducts shown in the illustration of the interior of the car are made a part of the deck and ceiling construction and conform to the general interior scheme of decoration. The air outlets are concealed by a panel

The Ice Bunkers—The Circulating and Overflow Pumps and Motors are Located Under the Bunkers

which extends along the ceiling for the entire length of the dining room.

The automatic control for the operation of this air-conditioning unit is based on the comfort chart issued by the American Society of Refrigerating Engineers. Each car is provided with a chart which shows the steward the proper setting of the thermostat based on the outside temperature prevailing. After reading the outside temperature the steward sets the thermostat in accordance with his chart. Pushing a button starts the

(*Continued on page 831*)

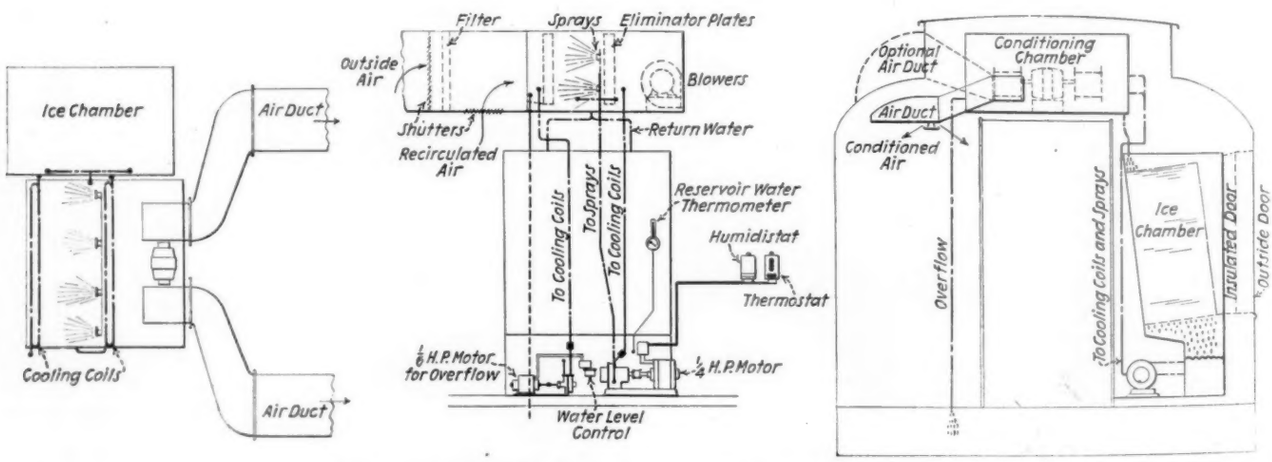


Diagram Showing the Operation of the Thermo-Gravity System

Railroad Bills Reported

One minority objects to retroactive repeal of recapture—Another to holding company section

WASHINGTON, D. C.

THE Rayburn bill, H. R. 11677, to repeal the fair return and recapture provisions of Section 15a of the interstate commerce act, and also to amend the consolidation and valuation provisions in Section 5 and Section 19a, was favorably reported by the House committee on interstate and foreign commerce on May 7 accompanied by two minority reports representing 9 of the 23 members.

One report, signed by Representatives Hoch, Burtness, Nelson, Robinson, and Garber, objected to the proposal to make the repeal of recapture retroactive and offered a substitute plan by which any recapture would be calculated on the average for the years since 1920 instead of for any year in which a road earned over 6 per cent. Under this plan the total estimated recapture liability up to 1930 would be reduced from $360,000,000 to $237,000,000 and 45 of the 90 Class I roads now on the commission's estimated recapture list would be relieved of such liability. The commission would also be authorized to make compromise settlements. Another report signed by Representatives Beck, Cooper, Wyant, and Igoe, objected to the inclusion in the bill of the unrelated subject of the regulation of holding companies and criticized the proposal as an unwarranted extension of federal authority.

"The commerce power of the Nation has been pushed to extreme limits," Representative Beck said, "but hitherto it has never been suggested that there is any general power on the part of the federal government to determine who shall own or vote and who shall not own or vote railroad shares, especially as these shares are those of corporations which were created by the states and owned by individuals. Even if the constitutional power of the federal government to pass such a law be assumed, there remains the question whether Congress, especially in this critical period, should exercise a power which goes to the extreme limit of communizing the railroads of the United States under the power of a governmental bureau.

Increase in Power of "Superboard of Directors" Opposed

The creation of the Interstate Commerce Commission in 1887 was a wise act. It has for many years acted successfully and advantageously as a great arbiter between the railroads and the public. Much of its work is altogether admirable, but its history has been marked by an ever-increasing demand for greater power, and with the growth of this power the ability of the commissioners, collectively, to exercise these particular powers wisely, has grown less. To-day the Interstate Commerce Commission claims to be a superboard of directors for all the railroads of the United States. Freely recognizing the inestimable good that the work of the commission has done, can it be ignored that its drastic and minute supervision of these railroads has injured their credit, imposed heavy burdens of expense upon the carriers and thus contributed somewhat to the deplorable conditions in which the railroads and their investing owners now find themselves?

If the law is now to be broadened and the commission is to be given the power, acting simultaneously as prosecutor, judge, and executioner, to control the question of railroad ownership irrespective of its effects upon the freedom of interstate commerce and only because, in its discretion, it interferes with its preparation of a plan of consolidation, then the states have lost control over corporations of their own creation and individuals can only own railroad stocks "by and with the advice and consent of the commission."

We recognize the commission would, in all probability, exercise the power conservatively, but it is the spirit of the English-speaking race to be as much concerned with the possible abuse of power as the power itself. In any event, if Congress shall now vest in the commission a power to determine under what conditions men may own or vote stock in more than one railroad, however noncompetitive they may be, then the next logical step is government ownership of the railroads, and the chief proponent of this law, who appeared before the committee in its behalf, apparently has this in mind. The amazing fact is that none of its proponents has been able to suggest any tangible facts that would show that these holding companies have been prejudicial to any legitimate railroad interests.

We are indisposed to grant further powers to this greatest of all governmental bureaus unless the advantage to the public is reasonably clear. Far from that being the case in respect to the present law, it seems to us a fact that to pass this law at this time, when many of the railroads are in a moribund condition, is to increase the investor's present lack of confidence, and possibly lead to a grave financial crisis. By common consent, the railroad companies are to-day in a very serious condition, and it is, therefore, no time to subject them to a major surgical operation.

1. We do not dissent to the repeal of the recapture clause of the transportation act. Whatever its merits may have been when that act was passed, its enforcement has been found to be impracticable, and even if practicable it would impose upon many railroad companies in this period of acute financial stringency an impossible and destructive burden. The fact that the Interstate Commerce Commission, with its practical experience of 12 years in attempting to enforce the recapture clause, has recommended its repeal, confirms our conclusion that such repeal would be a constructive measure of great value and we, therefore, concur in so much of the majority report as recommends such repeal.

2. This constructive measure is of such value at the present time that it is a matter of regret to the undersigned that it was combined with a bill which seeks to vest new and unprecedented powers in the Interstate Commerce Commission, and which, if passed, would, in our judgment, create serious alarm in the minds of the investing public.

In our judgment the "holding company" provisions of the proposed law seek to confer a power upon the Interstate Commerce Commission to determine under what circumstances any person or corporation shall acquire and own the shares of railroad companies. It gives the commission power to "require such person (the owner of such stock) to take such action as may be necessary in the opinion of the commission to prevent continuance of such violation" and the substance of the inhibited transaction is the acquirement by any person of "control or management in a common interest of any two or more carriers," or if the stock be already acquired "to continue to maintain control of management accomplished or effectuated in violation of this paragraph."

Compromise Proposed in Recapture

The Hoch report strongly approves the repeal of the fair return rule of rate-making but takes the position that there is no way to repeal it from the beginning, and, in reply to those who contend that the rule has been practically nullified in practice, it points to the general rate increase made in 1920 after the transportation act was passed. It ignores the 10 per cent reduction made in 1922, but says that "while numerous changes in rates have been made since Ex Parte 74, rates as a whole are to-day on a much higher level than they were when the transportation act was passed." The substitute proposal is explained as follows:

First. We propose to offset lean years against fat years in computing excess earnings since section 15a went into effect in 1920. The present law does not do this but demands one-

half of the excess earnings over 6 per cent for every year in which such excess is earned, even though in other years the earnings fall below 6 per cent. It is generally agreed that this is unfair to the carriers and the commission has repeatedly suggested that in computing excess earnings it be authorized to pool the fat and lean years over a period of several years. This change would release entirely far more than half of all carriers against which claims now exist, and would substantially reduce the remaining claims. Only those carriers would be held and in reduced amounts where excess earnings have been shown rather consistently through the 12-year period.

The practical effect of the change above suggested to a period basis is indicated by the following figures: Based on commission figures, recapture claims now exist against 446 railroads, most of the claims being for small amounts. The total claims aggregate three hundred and sixty millions. If the computation were based on the whole period from 1920 to 1930, inclusive, 283 out of the 446 carriers would be released entirely and most of the remaining claims greatly reduced. Of the 90 Class I carriers, 45 would be released entirely; of the 137 Class II carriers, 83 would be released entirely; of the 135 Class III carriers, 100 would be released entirely; and out of 84 Class IV carriers, 55 would be released entirely. The total claims would be reduced from three hundred and sixty to two hundred and thirty-seven millions. These figures include neither 1931 nor 1932 which would be included under the proposal. If the figures for those years, not now available, were included, the total amount and the number of carriers liable would undoubtedly be still further greatly reduced. In this connection it is significant to note that out of the two hundred and twenty-two million due from Class I carriers based on the 11-year period, one hundred and thirteen millions or more than 50 per cent is due from three carriers. With lean as well as fat years figured in, the Chesapeake & Ohio earned during the 11-year period, $93,000,000 in excess of 6 per cent; the Norfolk & Western earned eighty-two and one-half millions in excess of 6 per cent; and the Duluth, Missabe & Northern about fifty-one millions in excess of 6 per cent. The claims, of course, are only for half of such excess. The first-named road fell below 6 per cent in only two years; the second fell below in four years; and the third earned a substantial excess every year of the 11. It seems particularly hard to justify an absolute cancellation of all claims in cases such as these.

Second. We propose, in order to avoid litigation as far as possible, to grant to the commission the power to make compromise settlements of these past claims against the carriers. It is recognized that there are important issues in controversy between the commission and the carriers which may result in extended litigation. The principal issue relates to valuations. The carriers dispute the commission's method of determining valuations. They have contended that the commission has not valued their property high enough. Some comment might well here be made as to the effect of present conditions under which reproduction costs have been greatly lowered. But without expressing any opinion as to the merits of the valuation controversy, the significance of the issue is readily admitted. Obviously any raising or lowering of the valuation base, changes the percentage of return and affects the claim as to excess earnings. Compromise settlements would, of course, still further reduce the amounts recoverable. While this proposal would vest a great deal of power in the commission, it is no greater power than they have exercised in many matters. More than that, it is not a new proposal.

The majority report, stating that the bill has the approval of the Interstate Commerce Commission, consists mainly of an explanation of the changes proposed in the present law. Some extracts are as follows:

Proposed Changes in Section 5

Since a plan for the consolidation of railway properties has now been adopted by the Interstate Commerce Commission, as directed by law, no reason is apparent for hereafter permitting the acquisition by one carrier of control of another carrier or carriers without regard to such plan, as is the case under the present paragraph (2), and therefore it is proposed to combine such paragraph (2) with the present paragraph (6), which relates to consolidations and requires conformity with the consolidation plan. These two paragraphs are, in substance, incorporated in the proposed new paragraph (4). The provisions of the present paragraph (3) appear in the bill in paragraph (14). By reason of these changes, the present paragraphs (4) and (5) are renumbered as (2) and (3), respectively, and the last sentence of the present paragraph (5) is stricken out because of the other changes proposed by the bill. The present paragraph (7) is omitted entirely since it was temporary legislation and has served its purpose. The provisions of the present paragraph (8) appear in the proposed paragraph (15).

Paragraph (4): This paragraph, while it includes substantially the provisions of the present paragraphs (2) and (6), is more comprehensive in its scope and authorizes consolidations, mergers, purchases, leases, operating contracts, and acquisitions of control, if approved by the commission as being in harmony with the consolidation plan and as promoting the public interest. It will be noted that it goes beyond the present law in that it specifically authorizes a corporation which is not a carrier to acquire control of two or more carriers, and a corporation which is not a carrier and which has control of one or more carriers to acquire control of another carrier, the control in both cases to be effectuated by ownership of stock.

Paragraph (5): This paragraph supplements paragraph (4) by providing that whenever a corporation which is not a carrier acquires control of any carrier or of two or more carriers as provided in paragraph (4), such corporation shall be subject, to such extent as may be provided by the commission, to the provisions of the interstate commerce act relating to reports and accounts and the issuance of securities.

Paragraph (6): A means having been furnished under paragraph (4) by which consolidations, mergers, purchases, leases, operating contracts, and acquisitions of control may be effected, it is intended by this paragraph to prevent consolidations, unifications, common controls, and common managements being effected, in the future, otherwise than as authorized in such paragraph (4), it being the intention that the Interstate Commerce Commission shall have an opportunity to pass upon such matters in order that transactions resulting in combinations and controls of carriers may be accomplished in an orderly manner, with due regard to the consolidation plan and the public interest. It is clear from past experience in the administration of the present provisions of section 5 of the interstate commerce act that through the use of ingenious legal devices and combinations of interests it is possible to effectuate controls and virtual unifications of carriers the existence of which it is difficult, if not impossible, to prove as a matter of law. It is, therefore, very difficult to write a provision which will be effective in bringing such activities under public control. This paragraph, together with the proposed paragraphs (4), (7), (8), and (9), attempts to accomplish this result, and this to some extent accounts for the fact that these provisions are somewhat involved. It will be noted that paragraph (6) contains a provision that it shall be unlawful to maintain control or management accomplished or effectuated in violation of its provisions. Since the bill does not provide for a criminal penalty for violations of paragraph (6), but merely provides for the commission securing equitable relief to compel obedience to the provisions of paragraph (6) and of orders of the commission enforcing such paragraph, it was deemed necessary to include this provision in order that an equity court would have a subject with respect to which it could act. This particular provision, as well as the whole of paragraph (6), only operates as to the future.

Paragraphs (7), (8), and (9): As stated above, these paragraphs supplement paragraph (6), and are necessary because of the difficulty in establishing as a matter of law, in many cases where as a matter of fact it is known, that control or management in a common interest of two or more carriers is effectuated or actually exists. The provisions of paragraph (6) would be of little effect unless the language contained therein were construed to include control or management effectuated or exercised indirectly through the use of legal devices such as holding companies, voting trusts, and combinations of affiliated interests. It is, therefore, intended by the provisions of paragraphs (7), (8), and (9) to make sure that paragraph (6) covers such types of control and management.

Paragraph (10): By this paragraph the commission is authorized to investigate and determine whether any person is violating the provisions of paragraph (6), or, in other words, whether any person is maintaining control or management accomplished or effectuated in violation of such paragraph. If the commission finds such violation, it is authorized by order to require the violator to take such action as may be necessary to prevent continuance of such violation.

Paragraph (11): By this paragraph it is intended to prevent the holding of stock of railroads under certain circumstances calculated to prevent the furtherance of the plan for the consolidation of railroads. This provision has been referred to as being retroactive because it is possible that it may apply to stock which has been acquired before the enactment of the bill; but this is inaccurate. The provision is entirely prospective in its application. It authorizes the commission to determine whether the holding by any person of stock or other share capital of any carrier (unless acquired with the approval of the commission) has the effect of subjecting the

carrier to the control of another carrier or to common control with another carrier, and also has the effect of preventing or hindering the carrying out of any part of the consolidation plan or of impairing the independence of the systems provided for in such plan. If the commission finds that the holding (and this, of course, includes the manner in which the voting power is being exercised) has these effects, it is to provide by order for restricting the exercise of voting power with respect to such stock or other share capital to the extent necessary to prevent such holding from continuing to have such effects.

Paragraph (12): This paragraph is included to make sure that authority may be had for suspending any proceeding the decision in which is dependent upon the then existing consolidation plan, if the plan has been reopened in some respect which may affect the decision under the proceeding in question.

The investigation under House Resolution 114 (H. Rept. No. 2789, 71st Cong., 3d sess.) disclosed that an important weakness of section 5, as it now stands, is that it places no control upon the activities of so-called holding companies in effecting unification of railway properties into systems. H. R. 9059 formed the basis for sections 1 to 4 of the present bill. In the hearings on that bill special counsel for the committee and the chairman of the legislative committee of the Interstate Commerce Commission illustrated this weakness of section 5. The investigation disclosed that acquisitions which had been disapproved after formal hearings by the Interstate Commerce Commission had afterwards been accomplished through the use of holding companies. It further revealed that systems which had been approved by the commission, as in the public interest, and which in harmony with the commission's completed plan would be independent of one another, had been brought under the control of a single holding company. This investigation made clear that the independence, one of another of the railroad systems resulting from the congressional plan included in section 5 of the act to regulate commerce, was in some instances being destroyed, and in others, seriously threatened.

Apart from section 5 of the interstate commerce act, the commission has certain jurisdiction under the Clayton Act over acquisitions of control, direct or indirect, of one railroad by another, or acquisitions of common control of two or more railroads, where it can be established that the effect of such acquisitions may be to substantially lessen competition between the corporations involved, or to restrain the commerce in which they are engaged, or to tend to create a monoply, of any line of commerce. But the enforcement of the commission's authority to break up such combinations after they have been put together is hedged about by many difficulties, and probably no such authority exists under the Clayton Act in the case of certain of the unifications which have been accomplished through the use of holding companies and which are described in House Report No. 2789.

This bill specifically treats a holding company which has been authorized to acquire a railroad as though it were a common carrier in that, first, it must obtain approval of the commission to acquire control of two or more railroads; second, after obtaining such approval it must then, like the railroads, be subject to paragraphs (1) to (10) inclusive of section 20 of the act (relating to reports, accounts, etc., of carriers), and to paragraphs (2) to (11), inclusive, of section 20a (relating to issues of securities and assumption of liabilities of carriers). If the commission finds after an investigation that a person has in defiance of the congressional will, as expressed in section 5, brought about a combination of railroads, the commission shall by order provide for restricting the exercise of the voting power of such person with respect to the stock or other share capital, used in an effort to effect the unlawful combination.

Proposed Changes in Section 15A

By this bill (sec. 5) it is proposed to strike out the whole of section 15a and substitute therefor what may be termed a rule of rate making, indicating certain factors which, among others, the commission, in the exercise of its power to prescribe just and reasonable rates, must take into consideration.

The bill provides (sec. 6) for the return to carriers of amounts which they have heretofore paid to the commission under the provisions of section 15a.

This fair return set up in section 15a of the present law is quite a different thing from the fair return on which the Supreme Court has held that a public service company can not under the constitution lawfully be deprived. The latter applies to individual companies. The fair return provided for in section 15a is an average for all the railroads in the country or in any designated rate group.

This section 15a is a unique provision in the public regulation of railroads and utilities in this country. When the transportation act was drawn in 1920 this proposal did not come from the Interstate Commerce Commission, nor from the railroads, nor from the shippers, but appears to have originated with some group which was apparently dominated by a single individual who was interested in trying to stabilize the price for railroad securities. The Committee on Interstate and Foreign Commerce in 1919 condemned such a provision as 15a. In a conference the House seceded from its position and agreed to the present section 15a.

The experience of the past 12 years bears out the correctness of the position taken by the committee in 1919. The rule has been disappointing to the security owners who thought they would profit from it. The shippers have never favored it, and the Interstate Commerce Commission has consistently and earnestly recommended its repeal.

The rule of rate making as rewritten contained in subparagraph (2) of section 5 of the bill directs the commission to give due consideration among other factors to the effect of rates on the movement of traffic; to the need, in the public interest of adequate and efficient railway transportation service at the lowest cost consistent with the furnishing of such service; and to the need of revenues sufficient to enable the carriers, under honest, economical, and efficient management, to provide such service. It is difficult to conceive of a reasonable rate which would ignore any one of these considerations. The commission as a fair and impartial body acting for the Congress will continue to give consideration to these factors. In the case of the power given to the commission to prescribe just and reasonable rates the committee does not believe that it is necessary to encumber the statutes with further language which might be mandatory in terms but which could add nothing further to the plain duty of the commission under the law, and which might be interpreted to imply a distrust of the commission in prescribing just and reasonable rates. The commission will, and must give consideration to all facts developed on the record and see to it that the record is enlightening as to such factors as are mentioned in subparagraph (2) of section 5 of this bill.

Section 19A

Section 7 of the bill relieves the commission of the duty (which it now has under section 19a of the interstate commerce act) of making valuations of street, suburban, or interurban electric railways when they are not a part of general steam railroad system of transportation, but gives the commission authority to make such valuations when, in its judgment, such action is desirable in the public interest.

Section 8 of the bill amends paragraphs (f) and (g) of section 19a of the interstate commerce act under which the commission, after the completion of the original valuation of railway properties, is under the duty of revising and correcting its valuations, and of making a report of Congress at each regular session of such corrected valuations. As proposed to be amended by the bill, these provisions will no longer require the commission to revise and correct its valuations and to report them to Congress, but will make it the duty of the commission to keep itself informed as to new construction, extensions, improvements, retirements, and other changes, will authorize the commission to keep itself informed of current changes in costs and values of railroad properties, and will further give the commission authority whenever it deems necessary to revise, correct, and supplement any of its inventories and valuations.

Paragraph (f) of section 19a directs the Interstate Commerce Commission, upon the completion of the basic or primary valuations provided for in the preceding paragraphs of this section, to revise and correct such valuations from time to time in the same costly manner as was required in the determination of the basic valuations. No one, at the time of the passage of the original valuation act, had an adequate concept of the extent of the undertaking to inventory and value all the railroads and their equipment and of the amount of money, time, and labor necessary to be expended in complying with the detailed requirements of the law. The basic work, now completed at great cost, should not be permitted to become useless by reason of obsolescence just when it is becoming what it is designed to be, a "practical working tool and guide" for the commission in its many regulatory duties, or to Congress itself when the railroad situation is becoming acute.

Valuations, to be of practical use, must be current. It is the thought of your committee and the recommendation of the commission that the full benefits contemplated under the present law can be better realized by simplification of the law, resulting also in less expenditure of time, labor, and money just as soon as all the records are brought to currency. To that end, section 8 of H. R. 11677 amends paragraph (f) of

section 19a by relieving the commission from proceeding to bring the original or primary valuations down to date "in like manner" or in the great detail and under the same procedure as was required for the original valuations.

Chairman Rayburn of the committee hopes to obtain early consideration of the bill in the House and on May 9 introduced a resolution proposing a rule for that purpose, which was referred to the committee on rules.

Chairman Couzens of the Senate committee on interstate commerce on May 9 introduced in the Senate a bill, S. 4600, which includes the provisions of the House bill amending Section 5, relating to holding companies and acquisitions of control, but does not include the amendments to 15a and 19a. This was offered as a substitute for the holding company provisions which he had included as a rider to his bus bill, S. 2793, so that consideration of the two subjects might be separated in the Senate.

I. C. C. Begins Six-Hour Day Investigation

WASHINGTON, D. C.

ADOPTION of a six-hour day in railway service, on the basis of the payment of the amount now paid for an eight-hour day for six hours, would increase the payrolls of the Class I carriers by approximately 25 per cent, which for the year 1930 would have amounted to over $600,000,000, according to an opening statement on behalf of the roads by Jacob Aronson, general counsel of the New York Central, at the hearing before Division 6 of the Interstate Commerce Commission, begun on May 11 under the Congressional resolution directing it to report as to the effect upon operation, service, and expenses of the application of the "principle" of the six-hour day. Such an increase in that year, he said, would have resulted in the failure of the roads to meet fixed charges by approximately $100,000,000.

Division 6 includes Commissioners Eastman, Lee, and McManamy. Commissioner Eastman, presiding, said at the outset that the commission under the resolution was acting as a fact-finding body and had not been directed to express conclusions as to the desirability or feasibility of a six-hour day, and that the inquiry should not be conducted on the basis of litigation between parties. He also said that the testimony to be received would be supplemented by studies made by a committee composed of members of the commission's staff.

Mr. Aronson said that for the purpose of assembling data in response to the commission's order the railways had formed committees representing the eastern, southeastern and western regions and that most of the evidence would be submitted through witnesses who would testify for the carriers of the three regions, to be followed by certain financial and statistical evidence which, among other things, will deal with the result of the application of the principle of the six-hour day to the roads as a whole. In the studies, he said, it had been assumed that this "principle," which was not defined in the Congressional resolution, means that the carriers would be required to pay the same amount for a basic six-hour day as they now pay for a basic eight-hour day.

Donald R. Richberg, counsel for the Railway Labor Executives' Association, representing the 21 railway labor organizations, also made a more elaborate opening statement to explain the attitude of the organizations which, he said, had been the "progenitors" of the resolution. He agreed with Commissioner Eastman that the commission had not been called upon to express conclusions and said that it should avoid doing so, but that it would be called upon to consider opinion evidence "because this is essentially a prophetic type of investigation" and that such opinion evidence should be reported on by the commission.

Pointing out that the resolution did not define the terms it used Mr. Richberg said that those he represented would define the principle of a six-hour day as envisaging an opportunity for a worker to earn a livelihood by working substantially six hours a day for six days a week but that practical conditions may require a different allotment of time than a mathematical six hours a day. The primary purpose was to relieve unemployment, with the thought of maintaining or even improving the standard of living by employing more men at shorter hours without a decrease in earnings. It is not their conception, he explained, that the resolution was intended to imply a mathematical formula and they intend to present evidence to show that for certain classes of employees a six-hour day can be applied while for others modifications would be necessary, some temporary and some permanent. It would be exceedingly unfortunate, he said, if the commission should embark upon the investigation in the spirit of a rigid mathematical formula, and he emphasized that it should consider not only the immediate and superficial effects but the ultimate and far-reaching effects, and also consider the question on the assumption of its application to all industries.

Outlining the philosophy on which labor advocates the six-hour day principle, he said he believed the issue to be one on which men may properly disagree with the utmost good faith, but that since prosperity depends upon the largest possibility of employment the primary purpose of industry should be considered as that of providing an opportunity to earn a livelihood to those who have devoted their lives to it rather than that of serving its customers. An enterprise is not successful, he contended, unless it furnishes a livelihood to those in it and at least the solicitude accorded those who have invested their surplus money in an industry should be given those who have invested their lives. If everyone is afforded an opportunity to earn a livelihood, he said, clearly there will be the capacity to produce as well as the capacity to consume.

Commissioner Eastman pointed out that the field of this investigation is one in which the commission has had practically no experience and is without special knowledge and he said that it may be necessary to make a report based on certain alternative interpretations.

J. G. Walber, vice-president, personnel, of the New York Central Lines, was the first witness on behalf of the eastern roads. He outlined the present wage rate bases in effect in various classes of service and mentioned several rules that would have to be changed to make them applicable to six-hour day conditions, in addition to describing the methods followed by the roads in making up their studies of the effect.

George J. Ray, chief engineer of the Delaware, Lackawanna & Western, testified as to the effect of the introduction of a six-hour day in maintenance of way work and submitted an exhibit showing the effect on the number of employees and the payroll of the application of a six-hour day for 34 eastern roads for the year 1930, based on studies made by the roads for the months of January and August. This showed a total of 106,011 maintenance of way employees on the eight-hour basis, whose compensation was $133,300,000.

whereas the application of a six-hour day would have caused an increase of 31,031, or 29.26 per cent, in the number of employees and of $42,743,207 for the year, or 32.06 per cent, in the payroll. It also showed that $4,862,000 additional capital expenditure would have been required to provide additional tools for the additional number of gangs that would be required in certain classes of work. Mr. Ray pointed out also that a considerable amount of time is now paid for in which no productive work is rendered, such as time going to and from work, and that the percentage of unproductive time would be increased with a six-hour basis.

R. F. Faries, assistant chief engineer, maintenance, of the Pennsylvania, submitted a series of charts comparing the effect of the six-hour day if applied to conditions on the Philadelphia division in maintenance of way and structures work in 1930, both as to number of men and expense. He showed that whereas the Pennsylvania has succeeded in effecting a considerable degree of stabilization of employment throughout the year any increase in the cost would force it to reduce the amount of winter work, which includes a large proportion of unproductive time, and crowd more of the work into the summer months. He also said that increases in wages would force the use of a greater amount of mechanical equipment by making it more economical than hand work, and submitted a chart showing that whereas the actual cost of the work done on the Philadelphia division in 1930 under an eight hour day was $2,032,382, the probable cost of the same program on a six-hour basis, even after allowing for the saving effected by an increased use of machines, would be $2,517,422, an increase of 23.9 per cent. He said that a six-hour day would increase the cost of laying rail by approximately 50 per cent.

The Railway Labor Executives' Association has issued a statement to the press stating that reports from all sections of the country show a grave increase in unemployment since February 1, both on the railroads and in other industries. "It appears," the statement said, "that the wage reduction which began February 1 has not produced any additional employment for railway workers. On the contrary, less men are now employed than when the agreement was made, although under normal conditions a seasonal increase in employment should have been shown. Railway managements explain the failure of employment conditions to improve on the ground of a continuing decline of production in other industries."

Rock Island Air-Conditioning the "Golden State Limited"

(Continued from page 826)

unit in operation which provides an atmosphere conforming to the temperature and humidity conditions set forth by tested comfort-zone limitations.

Severe requirements prevail as to climatic conditions in the country through which the "Golden State Limited" is operated. The temperature has an average high of 105 deg. F. Re-icing periods have been established for this run which are based on climate and governed according to the number of passengers and working crew, as well as the thickness of insulation in the cars. These dining cars are being supplied with additional insulation, particularly in the roof, partially to offset the extremely high temperatures which prevail in the southwest territory.

Books and Letters . . .

Abandon "Can't Do It" Tack To Develop Passenger Business

NEW YORK, N. Y.

TO THE EDITOR:

A letter which I received recently from a railroad man contains so much sound sense that it should be of interest to readers of *Railway Age*. I quote from it the following excerpts:

I think perhaps that what we need in the railroad business is some new blood, men who have no railroad traditions or are not stuck in the railroad rut and perhaps have got some new methods. There is still plenty of travel in the country if it can be coaxed back to the railroads.

My idea is that, as far as passenger traffic is concerned, the railroads have got to do a number of things:

1. Reduce rates, which are too high. Have a very cheap coach rate, which will be so low that a man couldn't afford to use his own automobile for a hundred-mile trip. If two cents won't do it, perhaps 1½ cents will. As long as we are going to run these trains we might as well fill them. In India they carry passengers at 1/6 cent a mile and while, of course, the rate of wages and everything else is probably in a like proportion, yet they seem to make money on that basis.

2. In the Pullman sleepers, get back to our old rate of 3 cents per mile and eliminate the surcharge.

3. Revise our dining car prices downward. While some dining car prices are very reasonable, other small items are too costly.

4. Improve passenger equipment with the highest type of light serviceable chair-car coaches such as some of the railroads are now operating.

5. Speed up the trains and improve the terminals and the average medium-sized station.

6. To offset the automobile, it might be advantageous to make an arrangement with taxicab companies in big centers to bring the passenger to the station and, if he buys a ticket of more than, say $3, pay his taxi cab fare, and the same at point of destination.

7. Revise our old system of doing business and instead of having so many regulations based on "can't do it" take the other tack and say that there practically isn't anything we can't do.

J. M. CAMPBELL.

Abolish the Commission, Appoint a Cabinet Minister

FREMONT, OHIO.

TO THE EDITOR:

I live on the main thoroughfare from Cleveland to Chicago, the north route from New York to the West. Over a dozen big buses pass every day, some with berths for night riders, with passengers to all points in the U. S., and hundreds of freight trucks with two or three trailers, many with sleeping compartments for drivers to occupy alternately, all loaded with freight for points to 1,000 miles away. Overhead, mail and express planes are passing almost every hour. As the ancients started to float in small dugouts and later conquered the seas with larger ships, so aircraft are developing into constantly larger ships which will soon carry much of our express business. The government has spent millions of dollars, and possibly rightly so, aiding air transport, more millions in aid of bus and truck transport by state and federal aid in developing roads, and unnumbered millions developing water transportation, while allowing the Interstate Commerce Commission, that stupendous and expensive example of the folly of government in business, to strangle the railroads of their vitality, filling the yards with idle cars and equipment, deteriorating for want of care, and bringing a majority of the roads

to the verge of bankruptcy for want of income. Their stock is no longer of value to its owners and many bonds no longer legal investments for life insurance companies and saving banks. As the matter now stands many insurance companies may lose millions of policyholders' money and possibly be forced into receivership unless these bonds can be restored to their former value.

Every intelligent person knows that our railroads were large and important factors in the development of our country. They were developed and brought to their present state of perfection by the best brains of the times. They are now the largest single industry in the world, paying more wages to labor, more taxes in support of our government than any other industry, a masterpiece of efficiency unequaled anywhere in the world. The men who own and developed them have a pride in them, know how their business should be conducted, and if given a free hand would have kept the properties from their present predicament. Yet we have allowed scheming politicians who know nothing of the business and care less, whose ambition is to please their voters and party bosses, to practically wreck the railroads so far as income or value to their owners is concerned. It has for years been a favorite pastime of politicians to hold up for the edification of the voters, their record of railroad persecutions, behind which they hide nefarious log-rolling and pork barrel activities.

The days of the pony express, stage coach, and electric interurban have largely passed and the day of the short line railway feeder is passing. They can be largely supplanted with buses and trucks but it will be a sorry day for our country if our main arteries of commerce, our through railroads are by government regulation stifled into inefficiency. They still have a valuable service to perform for long haul heavy freight and cheap passenger service.

The future transportation of this country will be done by water, railroads, public roads, pipe lines and aircraft. Slow freight may go by water, where available, but where there is no water traffic the railroads must still carry the bulk of the business. An increasing number of buses and trucks will use our public roads and aviation will be formidable competitor for both fast freight and passengers. Hence any consideration of transport regulation that is not broad enough to comprehend the several problems of all systems and their relation to each other is bound to favor some and do an injustice to others. Federal control of all systems would greatly simplify many other problems besides correlating rates between systems—such as specifications for proper safety equipment and adequate insurance against loss of life or property. Such unified regulation would also avoid a hodge-podge of conflicting restrictions resulting from the rulings of many commissions and the whims of the various state legislatures.

We should, therefore, forthwith abolish the Interstate Commerce Commission with control over one branch of transport only and appoint a secretary of transportation in the President's cabinet—a man with authority over all forms of transport and with vision large enough to co-ordinate all systems to their mutual advantage and the public good, instead of fostering cutthroat competition between systems.

O. C. Vermilya, M. D.

New Book

Erläuterung zu den Vorschriften für Geschweisste Stahlbauen (Explanation of the Rules for Structural Welding). Third Edition. By O. Kommerell. 6 in. by 8 in., 72 pages, illustrated, bound in cardboard. Published by Verlag von William Ernst & Sohn, 90 Wilhelm Strasse, Berlin W8, Germany. Price 3.30 Reichmarks.

This is a manual on the application of autogenous welding to structural steel construction. The first half of the text is devoted to a detailed outline of welding practice, rules for good workmanship, and a discussion of the strength of welds, based on experimental data. The second half comprises an exposition of structural design as applied to welding, in which each case discussed is illustrated by a practical example, covering such items as built-up beams and columns, beam and column connections, etc.

Odds and Ends . . .

The Skeptics Society Intervenes

Topeka, Kan.

To the Editor:

In your issue of April 9, under the caption "The Lincoln Ghost Train," you express a wish to "bring other ghost stories to light."

Since this train is pictured as "hurtling by with lightning speed" while the "headlight grows larger and larger and fairly blazes with a blinding light;" and since we know that tracks were then laid with rail not heavier than 53 lb., and that the "blinding light" was from an oil-burning headlight, haven't you already told us the ghostliest ghost story imaginable? I note, without sympathy, that "those who claim to have seen the Lincoln ghost train never wish to witness its passing again." They probably never will—if they will change bootleggers.

Spookily yours,
"Hi."

Singular or Plural?

The question of whether Siamese twins are one or two persons came officially before the Northern Pacific passenger department a few days ago. To E. J. Johnson, auditor of passenger receipts, a conductor on a Northern Pacific passenger train enroute to Seattle, Wash., appealed when the Siamese twins presented a ticket for a single fare. The telegram read, "Have pair Siamese twins on board with only one ticket. Tried to collect two fares, but they claim they are only one person and entitled to travel on one ticket. What shall I do?"

After a perusal of the rules and regulations of the Interstate Commerce Commission, Mr. Johnson concluded he could find no solution of the question from that source.

"It's against the law for us to carry a passenger free, and it likewise is against the law to charge one passenger double fare," he said. "Maybe one of the twins could be considered the baggage of the other. Every passenger is entitled to 150 lb. of free baggage."

After long and weighty consideration of the question, Mr. Johnson sent the puzzled conductor this telegram: "Let Siamese twins travel on one ticket and be thankful they are not trying to ride in separate berths."

"Star Time" Invoked

The combined resources of the New York Central, the General Railway Signal Company, the Elgin National Watch Company and the solar system were called upon on April 24 to get the Twentieth Century Limited properly started from Chicago on its new 18-hr. schedule to New York. The train left Chicago at 1:30 p.m., not simply central standard time but "star time," accurate to .002 of a second. Here is the way it was done. A G.R.S. searchlight-type signal was mounted at the outer end of the LaSalle Street station trainshed, and a sign furnished by the Elgin watch company, containing a star in the center with a red light directly underneath, advertising "Elgin Star Time," was erected in the station concourse, directly over the gates leading to the platform at which the two sections of the train stood. These were connected by a pair of wires through telephone cables directly with the master clocks at the Elgin observatory, Elgin, Ill. Promptly at 1 p.m., the red light in the signal and the red light in the sign started ticking off the seconds, the lights flashing on impulses received from the observatory. These two red lights marked the passing of each second, starting on the minute and omitting the 29th second and the 55th to 60th seconds of each minute. At exactly 1:30 p.m., green lights were displayed in the signal and a green light in the center of the "star" in the station concourse. On the instant of the flashing of the green signals, the two sections got under way.

It was a good stunt and received lots of publicity in the newspapers.

NEWS

N. E. Roads To Extend Door-To-Door Service

C. V., Rutland, M. & W. R., and St. J. & L. C. follow lead of B. & M. and Maine Central

Extension of the pick-up and store-door delivery service on l.c.l. freight, established by the Boston & Maine and the Maine Central recently, to include some of the larger communities on the other northern New England railroads was decided upon on May 11 at a meeting of railroad traffic officers.

The Bangor & Aroostook, Boston & Maine, Central Vermont, Maine Central, Montpelier & Wells River, Rutland and St. Johnsbury & Lake Champlain were represented at the meeting. All but the Bangor & Aroostook decided to extend the pick-up and delivery service to their lines on or about July 1. The Bangor & Aroostook representative stated that he is in favor of the move, and that the Bangor & Aroostook will probably join in time to participate at the start.

The action at the meeting places the northern New England railroads first among all those east of the Mississippi River in offering shippers and receivers of l.c.l. freight store-door pick-up and delivery. It will add important business centers in Vermont, Maine and New Hampshire to the list of 107 communities in those states and in Massachusetts in which, commencing May 16, the Boston & Maine will start this new form of railroad service. It will also add considerably to the 12 places in which the Maine Central is already operating such service.

A statement signed by W. B. Hill, general freight agent, Bangor & Aroostook; J. R. MacAnanny, assistant freight traffic manager, Boston & Maine; J. W. Hanley, general freight agent, Central Vermont; C. K. Hall, assistant freight traffic manager, Maine Central; S. W. Carder, general freight agent, Rutland; and J. A. Cannon, general superintendent, Montpelier & Wells River and St. Johnsbury & Lake Champlain, issued after the meeting said:

"The northern New England railroads, as a result of requests from shippers, have decided to join with the Boston & Maine and Maine Central in offering their patrons door-to-door pick-up and delivery service on less-than-carload freight moving between the larger stations. The move is intended as a means of meeting highway motor truck competition. We believe that in attempting to place freight traffic back on the rails, removing it from the public highways, we will be offering to shippers and receives a service which they tell us railroads must offer in order to recapture lost freight traffic. At the same time we contend, all communities will benefit by a lessening of congestion on the public highways, where unregulated freight-carrying motor trucks are operating at uneconomic rates, which are made possible because they are, in part at least, subsidized by using the public highways as their business right of way.

"It is intended to establish the extension of the service on or about July 1. It will at first apply between larger cities on the railroads participating. It is the intention to extend it to other communities if the demand warrants."

Railway Appliances Association Moves Office

The National Railway Appliances Association has moved its offices in Chicago from 1014 South Michigan avenue to the Standard Oil building, 910 South Michigan avenue.

Texas & Pacific Forbidden to Drill on Right of Way

The Texas & Pacific's right of way through the oil fields of West Texas is only an easement from the state and cannot be exploited for oil or gas, according to an opinion handed down by the state court of civil appeals at Austin, Tex. The railroad sought to obtain permits to drill in the Ector county oil field but the Railroad Commission of Texas refused to grant the permits and the case was taken into court.

To Punish Stealing From Passenger Cars

The Senate committee on the judiciary on May 4 submitted to the Senate a favorable report on a bill to amend the federal law against the stealing or asportation of freight, express and baggage in the process of interstate transportation, so as to extend its provisions to provide for the punishment of stealing from passenger coaches or Pullman cars, or from passengers on such cars while they are parts of interstate trains.

Railroad Gardens

The Pennsylvania, in accordance with its established policy, is making available suitable tracts of vacant land owned by the company for the use of employees, whether active or furloughed, for making vegetable gardens. The company wishes to do everything in its power to aid employees in lowering of the cost of living, the announcement states as it expresses the hope that every employee who otherwise would be unable to have a garden, will apply for one of the company's plots.

N. J. Shippers' Leader Urges Truck Control

Adequate national transport system in jeopardy unless step is taken, says Bauman

Belying frequent assertions of the highly vocal anti-railroad coterie of shippers' spokesmen that there is no demand among shippers for regulation of truck transportation, Milton P. Bauman, president of the New Jersey Industrial Traffic League, vice-chairman of the New York Shippers Conference and traffic manager of some fifteen large industries, came out flat-footed for such regulation in an address before a forum of the New York Traffic Club on May 10. The other speaker—W. H. Chandler, manager of the traffic bureau of the Merchants Association of New York—took an opposite point of view and, holding that he was aware of no specific complaint against existing truck practices and that there was no public demand for truck regulation, presented his usual complaint against what he regards as a lack of foresight whereby the railroads have failed to adapt their services to new methods of transport.

Distinguishing between motor vehicle taxation and regulation, Mr. Bauman discussed only the latter and that from the point of view of the shipper who "must react and adjust himself, not only to the transportation system as it affects him today, but also as to how it will affect his operation in the future." There was no question in the speaker's mind but that "the prime interest of the shipper in transportation is in the maintenance of a national transportation system." He therefore urged all to view the problem from an "all-commodity and all-community angle" as reminded his audience that "for this country to survive, lumber, iron and steel, chemicals, grain, vegetable oils, cattle hides, salt, etc., as well as merchandise must continue to move."

"There is a tremendous amount of freight rated lower than fourth class which requires a national transportation system to move it," Mr. Bauman continued. "If there is to be co-ordination and such co-ordination involves giving short haul traffic to the motor truck, it would be interesting to have determined at what distance the motor truck would be willing to assume the burden of transportating all freight. Will they handle coal, lumber, clay and similar heavy heavy-loading but low-rated commodities, and will they handle tin cans, wooden

(Continued on page 836)

Thornton Says U. S. Lines Vital to C. N.

Chicago connection and C. V. bring traffic and employment to lines in Canada

Aside from the usual rows that have marked the sittings of the Canadian House of Commons throughout the present session a statement of interest was made last week to the House Committee on National Railways at Ottawa, by Sir Henry Thornton, president of the road, on the earnings of the United States lines of the system:

"The operation of the United States lines of the Canadian National Railways in 1931, resulted in an operating profit of $1,189,853. After provision for taxes, equipment rentals, fixed charges due the public and so forth there was a loss of $4,191,527. Prior to the depression these lines showed a substantial profit after those charges, and the value of those United States lines to the rest of this system is not reflected completely by the above figures. A very considerable volume of traffic is interchanged between the parent system and these subsidiaries much of which is dependent upon the continuing control of them. The gross earnings to the Canadian lines of a freight interchange with these United States properties in the ten-year period amounted to more than $150,000,000."

COL. THOMAS CANTLEY: "With regard to that statement and that situation, I have always held the view that whatever warrant we had for operating railways in the Dominion of Canada we had no warrant for operating railways and owning railways in a foreign country. I think we have got an obligation enough in connection with our own road. I think we are taking a risk in connection with operating roads in a foreign country."

SIR HENRY THORNTON: "When the government took over these properties they took over the whole Grand Trunk system and these properties, of course, followed along quite naturally. Now, there have been questions raised as to the wisdom of a Canadian government railway retaining as Col. Cantley pointed out, railway lines in a foreign state. As far as complications are concerned which might be regarded as international in character we have thus far succeeded in getting on very amiably with the Interstate Commerce Commission, with the representatives of the various states through which these lines run and, as a matter of fact, one might say with truth that our relations with public bodies in the United States are extremely cordial, and they have shown no desire to embarrass the Canadian National or the Canadian government.

"The Grand Trunk Western gives us an entrance into Chicago. It puts us in a position to connect directly with all western railways at Chicago, and get our share of through business. Some of that business goes to New England, but a great deal comes across the peninsula of Ontario to the Niagara gateway, and is there delivered to connecting roads. Our entrance into Chicago gives us an opportunity to move freight across the Ontario peninsula to the Niagara gateway, or through Ontario and part of Quebec and by way of the Central Vermont into New England. Every pound of that freight not only brings increased business and increased revenue to the Canadian National Railway, but it gives very considerable employment to Canadians who are working in Canada. As a matter of policy and strategy I should very strongly advise against disposing of either the Central Vermont or the Grand Trunk Western unless the price were that which compensated us for other losses which we might experience in the matter of traffic.

"I have always felt that Canada owes a certain debt to the ports of Halifax and Saint John because those are the only ports which are open all year round and give to the people of Canada uninterrupted access to the Atlantic ocean without passing through foreign territory. We have done all we could, and rates have been so constructed as to encourage grain shipments for export through those ports. But in spite of all that we have been able to do, in spite of all everyone can do, the grain will not move that way. The bulk of our export grain moves through Montreal and Quebec or through Buffalo to New York, and to a lesser extent, Boston, Philadelphia and possibly Baltimore."

Treasury Officers Meeting

The Railway Treasury Officers' Association will hold its annual meeting in New York City on Friday, October 21.

Frank W. Noxon Retires

Frank W. Noxon, secretary of the Railway Business Association, has retired after 24 years of service with that organization.

Rates on Ex-Lake Grain and Flour To Be Reduced

The Interstate Commerce Commission on May 11 authorized the eastern railroads to put into effect on May 23 on 10 days' notice reductions in the rates on flour, wheat, and other grains from Great Lakes ports to the Atlantic seaboard for export, to meet competition of Canadian lines and unregulated carriers on the lakes. The reduction on flour is 4 cents per hundred pounds and that on wheat is 5.17 cents.

R.S.M.A. Standing Committee Chairmen Appointed

S. G. Down, president of the Railway Supply Manufacturers' Association, has appointed the following chairmen of the standing committees of the Association: Frank P. Roesch, sales manager, Standard Stoker Company, Chicago, committee on domestic trade; Walter C. Sanders, general manager, railway division, Timken Roller Bearing Company, Canton, Ohio, committee on foreign trade. H. E. Graham, assistant to president, Jones & Laughlin Steel Corporation, Pittsburgh, Pa., committee on public relations.

New Demand That U. S. Cease Barge Operation

Inland Transportation Protective Association plans fight on government in business

Growing opposition to government in business is evidenced by the organization at Centralia, Ill., of the Inland Transportation Protective Association, for the express purpose of demanding that the United States government discontinue the operation of barge lines on the inland waterways in competition with private enterprise. This is the second organization of citizens recently formed in Illinois to oppose government barge operations on the rivers, the previous organization being the National Inland Shippers' Association, which was organized in Springfield, Decatur and Bloomington in December.

Citing figures to show that the federal government has spent more than $475,000,000 of taxpayers' money to improve the Mississippi and Ohio River systems, and $24,000,000 more for barges and towboats, while telling the taxpayers that river transportation is cheaper than rail transportation, John W. Stedelin, president of the new association and chairman of the transportation committee of the Centralia Chamber of Commerce, declared that there is no evidence to prove that river transportation is actually cheaper than rail transportation.

"The rivers have been improved by the government, and the government is spending millions of dollars a year to keep them navigable," Mr. Stedelin said. "By reason of these huge government expenditures the barge line rates are kept 20 per cent below rail rates. If the government would purchase from the railway companies their rights-of-way, rails and stations, and would assume the expense of maintaining them and would then permit the railroads to operate their trains on these roads without charge, it would be doing for the railroads what it is now doing for the barges; it would be placing railroads and barges on a par.

"This is not a railroad fight; it is a fight of the people," declared Mr. Stedelin. "When railway tonnage is reduced because of competition, rates must be advanced to meet the costs of operation. Inland communities depend almost wholly upon rail transportation 12 months of the year, and all river towns north of Cairo depend on railroads about 6 months of the year because winter makes river navigation impossible."

Mr. Stedelin said that inland communities are being penalized because they are forced to keep the railroads up 12 months of the year in order to provide river towns with rail transportation during the winter months.

Club Meetings

The Southern and Southwestern Railway Club will hold its next meeting at the Ansley Hotel, Atlanta, Ga., on Thursday, May 19, at 10 a.m. C. M. Darden, superintendent of machinery of the Nashville, Chattanooga & St. Louis,

will present a paper on the subject of fuel economy.

The Western Railway Club will hold its next meeting in the grand ballroom of the Hotel Sherman, Chicago, on Monday evening, May 23. C. A. Gill, superintendent of motive power, Baltimore & Ohio, will speak on "The Russian Situation, as Observed by an American Railroad Man." The annual dinner will be held at 6:30 p.m.

Varied Pullman Excursions, Coast to Coast

Numerous excursions, wherein both the railroad and Pullman fares will be reduced, will be operated during the summer months, beginning May 15, by the railroads and the Pullman Company in an effort to encourage and stimulate summer train travel. Low-rate, round-trip tickets will be sold from New York, Philadelphia, Baltimore, Washington, Boston, Montreal, and a number of other eastern cities to the Pacific Coast, and to United States national parks and Canadian national parks; also to the Black Hills, Salt Lake City, Denver, Colorado Springs, Pueblo and Mexico City.

Wage Statistics For February

The total compensation of the 1,093,215 employees in the service of Class I railroads in February was $132,038,534, according to the Interstate Commerce Commission's monthly compilation of wage statistics. This was a reduction of more than 11 per cent as compared with the payroll for January, reflecting not only the 10 per cent voluntary pay reduction but also a reduced number of employees as compared with the number in January. Compared with the corresponding month of last year the summary shows a decrease in the number of employees of 223,279, or 16.96 per cent. The total compensation shows a decrease of $43,779,596, or 24.9 per cent.

Regular Appropriation Proposed For Rivers and Harbors

An appropriation of $60,000,000 for rivers and harbors is proposed for the fiscal year 1933 in the annual War Department appropriation bill reported to the House by its appropriations committee on May 5. This is the same as the amount appropriated for the current fiscal year although there was a special appropriation of $22,500,000 to provide relief employment. The Corps of Engineers had submitted an estimate for $75,000,000 for next year. Of the total, $37,500,000 is for new work and $22,500,000 for maintenance. The total amount in the War Department bill was reduced $58,789,000 as compared with the present appropriation.

Claim Agents' Digest of Railway Law Cases

The excessive personal injury claims which eat into the carriers' revenues and which often exceed $50,000 each, are shown in the "Digest and Guide to Card Index" just published by the Association of Railway Claim Agents. This is designed to furnish railroad attorneys and claim agents with a complete and ready reference to the personal injury law as interpreted by the courts of appeal for the past 17 years. This action follows that taken at the annual meeting at Toronto, Ont., when the association voted to expand the publication of decisions and supplement the card index by a compact digest, reducing the 4,000 cases of the last 17 years to book form.

The decisions are so classified that the law can be found as well as the case in point of fact. The book is being sold to railway claim agents and attorneys for $10, which also carries a year's advance subscription to the card service.

Announce Contest Winners

The annual Best Paper Contest, conducted by the Purchases and Stores Division, A. R. A., has resulted in awarding the honors for the two best papers entered in the competition this year to William Courage, trucker, stores department, Canadian National, for a paper entitled "Can Abstract Values be Increased?", and to Philip J. Hurley, department invoice clerk, stores department, Canadian National, for a paper entitled "Interesting and Educating the Stores Employee by Varying His Occupation." Papers by Emmet J. Dennedy, stock clerk on the Baltimore & Ohio, F. C. Lutz, roadway stockkeeper, Canadian National, and R. C. Stenback, store helper, Northern Pacific, were awarded honorable mention. The winning papers will be presented by their authors at the annual meeting of the association.

Derby Rail Travel Lowest in Years

Rail travel to the Kentucky Derby held each year in May at Louisville, Ky., was lower this year than it has been in previous years. The Chicago, Indianapolis & Louisville, which last year ran 11 special trains and the year before 14, besides additional cars on regular trains, operated this year but 1 special train and added lengthened regular trains very little. In previous years special trains were chartered by hotels and clubs, including the Edgewater Beach Hotel, the Chicago Athletic Club, the South Shore Country Club, the Hamilton Club, the Lake Shore Athletic Club and the Midland Club, but this year these organizations did not charter any trains. The Pennsylvania operated two trains this year, as compared with five last year, while the Cleveland, Cincinnati, Chicago & St. Louis ran one as compared with two.

No "Agreement" in Cotton Belt Rebate Case

In the report concerning the acquittal of the St. Louis Southwestern of charges of rebating, published in the *Railway Age* of April 9, it was stated erroneously that "the railroad agreed to publish details of this (truck-rail) system and its rates as desired by the commission." No such "agreement" was made. It is pointed out by the Cotton Belt that, in criminal cases, no agreement can be made as to what the defendant will or will not do. The defendant is either convicted or acquitted on the charges as made. This was the case with the Cotton Belt, and the question of future conduct was not discussed.

Tariffs setting forth the proposed operations of the Southwestern Transportation Company, subsidiary of the Cotton Belt, were filed with the Interstate Commerce Commission before the operations began. These tariffs were rejected by the commission on the ground that it had no jurisdiction.

Railroads Oppose Coal Commission Bill

C. S. Duncan, economist for the Association of Railway Executives, testified at Washington on May 9 before a subcommittee of the Senate committee on mining, in opposition to numerous provisions of the bill, S.2935, which proposes to create a Bituminous Coal Commission, with powers which he described as "of vague and ill-defined limits" and which, he said, would seriously handicap the railroads in their efforts toward efficient and economical management. He said the bill gives the commission the power to dictate from what regions or even from what mines the railroads may obtain their fuel supply and apparently would give the commission the right to dictate prices. It would also give the commission authority to exercise arbitrary power over the development or non-development of traffic on every coal-originating railroad by limiting the extensions of sidings and switches, he said, and by attempting artificially to increase the price of coal the commission could increase the opportunity for coal substitutes to develop.

C. N. R. Branch Line Bill Brings Warm Debate

A bill extending for two years, or to August 31, 1934, the period for completion of twelve Canadian National branch lines and involving a total further expenditure of about $13,000,000 was passed in the House of Commons at Ottawa last week. During the debate members from constituencies in which these branch lines are located made strong pleas for early completion but the Minister of Railways, Hon. Robert J. Manion, gave them little encouragement. One member, though, Col. Thomas Cantley, a Nova Scotia Conservative, said plenty about the Hudson Bay Railway "extravagance."

Col. Cantley's outburst was occasioned by a defense of the policy of this and previous governments in completing the road to Hudson Bay, the defense being essayed by Hon. Thomas G. Murphy, Minister of the Interior and a Manitoba member included in those who a few years ago made the concerted clamor for steel rails to Hudson Bay. His concluding words were:

"This government has not only given sympathetic consideration but has carried to completion the railway and the port, and today this route is ready for business. All that is needed is for the shippers to send their goods to Churchill, and they will get to the old country."

Col. Cantley: "The last sentence of the minister's remarks contains the whole picture; all that is required is for the people to send their grain through Churchill, and why the deuce don't they? Last year the minister had to go over the country with a fine tooth comb looking for cargoes; the minister did everything and implored everybody to send some grain over that route. My objection is that the minister proposes to find $2,000,000 this year for Hudson bay but he cannot find a dollar for an eastern route."

Damage on Fruits, Etc., $9.20 Per Car

The average loss and damage payment per car of fresh fruits, melons and vegetables made by the railroads of the United States on 990,557 cars moved in 1931 was $9.20 per car. But on tomatoes the damage amounted to $36.08 per car; on lettuce, $21.61; on cauliflower, $20.73 per car. The figures by commodities were:

	Cars Originated	Loss & Damage	L. & D. Per Car
Tomatoes	31,073	$1,121,250	$36.08
Lettuce	49,778	1,075,671	21.61
Cauliflower	9,676	200,549	20.73
Carrots	11,160	218,780	19.60
Cucumbers	6,052	118,506	19.52
Plums & Prunes	6,082	118,505	19.48
Grapes	46,336	783,963	16.92
Peppers	2,413	36,463	15.11
Cantaloupes	24,279	346,402	14.27
Watermelons	50,449	647,226	12.83
Asparagus	3,284	36,483	11.10
Strawberries	4,443	45,579	10.26
Pears	20,127	200,549	9.96
Mixed Vegetables	27,004	218,780	8.10
Lemons	17,792	136,738	7.69
Celery	21,810	164,085	7.52
Spinach	8,788	63,811	7.26
Turnips	1,316	9,116	6.93
Apples	98,020	665,457	6.79
Oranges	88,874	574,229	6.46
Peaches	45,962	264,360	5.75
Grape Fruit	27,581	154,970	5.62
Cabbage	38,466	173,201	4.50
Onions	33,396	127,622	3.82
Potatoes (Sweet)	15,469	72,927	3.71
Potatoes (White)	238,550	319,055	1.34

That rough handling and unlocated damage play an important part in loss and damage to fruits and vegetables is shown in the fact that while loss and damage charged to rough handling and unlocated damage for all commodities decreased 19.5 per cent and for all commodities other than fruits and vegetables 39.6 per cent, that for fruits and vegetables increased 37.2 per cent. This is the record for the five years, 1927-1931. Loss and damage charged to rough handling and unlocated damage is as follows:

Year	Total (All Commodities)	Fruits and Vegetables	All Commodities Other than Fruits and Vegetables
1927	$18,302,676	$4,666,321	$13,636,355
1928	17,983,773	5,350,362	12,633,411
1929	19,555,388	6,536,209	13,019,179
1930	19,470,025	7,695,896	11,774,129
1931	14,734,123	6,402,869	8,331,254

Complaint Against Sunday Railroading

In a formal complaint filed with the Interstate Commerce Commission by Noah W. Cooper, of Nashville, Tenn., the commission is asked to prohibit the operation of railroad trains on Sunday by the exercise of its jurisdiction over railroad rates, fares, charges, regulations and "practices." Pleading that a uniform weekly rest or Sabbath day should be established as just and reasonable, the complaint says that Section I of the interstate commerce act prohibits every "unjust and unreasonable practice" and that Section 15 gives the commission power to prescribe what regulations or practices will be just and reasonable.

Mr. Cooper appeared as a witness during the rate advance case before the commission last summer and tried to persuade the commission and the railroads that their troubles were due to operating trains on Sunday. Since the small rate advance allowed by the commission has failed to fulfill its intended purpose of offsetting railroad deficits Mr. Cooper has been conducting researches into the interstate commerce act and believes he has found an answer to the problem.

N. J. Shippers' Leader Urges Truck Control

(Continued from page 833)

barrels, and such light loading articles at current transportation costs to the shipper? I fear not. The trouble is that when you idealize motor transport you are not thinking of the all-community and all-commodity angle, but only of those selected articles which are now known in the transportation field as the cream of the traffic."

In the subsequent discussion of the papers the foregoing was confirmed in remarks by W. E. Love of the Fidelity Motor Lines of North Carolina. Mr. Love, arising first to say that he was not opposed to "legitimate" regulation of trucks but objected to bills written by "railroad lawyers", later spoke a second time and asserted that "of course we don't want to handle coal and low grade traffic—we want to handle the high grade commodities on which we can offer a superior service."

Answering the contention that railroads could meet truck competition by giving a complete transportation service Mr. Bauman, while suggesting that "it undoubtedly is incumbent upon the railroads to furnish pick-up and store-door delivery", nevertheless added: "One of the things that amazes me, however, is that the ones that advocate pick-up and store-door delivery by railroads are to be found in the ranks of those who oppose regulation of the motor truck. I would like to ask how they expect the rails to furnish such transportation under governmental regulation, while their competitors are totally free to do what they will. In the southwest for instance, the Cotton Belt and other railroads are now actually and actively furnishing store-door delivery in conjunction with road haul operation. Between the very same store doors that the southwestern lines serve is interstate motor truck operation totally free of regulation."

In discussing the interest of the shipper in rates Mr. Bauman called attention to the fact that this country has developed commercially on the basis of known freight charges and in order to perpetuate this equitable situation he advocated truck regulation which would include certificates of public convenience and necessity, the filing of tariffs by truckmen and their observance by both truckmen and shippers, the filing of reports as to tonnage and the requirement that rates, fares and charges assessed be just and reasonable. Such regulation, he thought, would have the effect of creating stability in the truck industry and then "Capital, intelligence and initiative would become interested in motor transport."

Finally, Mr. Bauman paid his "respects" to the truck manufacturer and suggested that, as "anyone with $250 and a back yard can become a truckman," any alleged lack of foresight on the part of railroad leaders "is minute compared to the present practice of the motor truck manufacturer."

"The result," he continued, "is that the motor truck manufacturer has flooded the country with a lot of irresponsible truck possessors and operators, who have no idea of costs, very little overhead, very little responsibility, no dependability, and who are a constant jeopardy to the public safety and also to those engaged in transportation on a sound and business-like basis. I know nothing that is more shortsighted than the practice of the motor truck manufacturer to make a legitimate trucker an allowance of $1,000 on a five- or six-year old depreciated truck, and then to turn around and sell that discarded truck to anyone possessing a hundred or two hundred dollars and thereby establishing a competitor for the legitimate truckman. If the certificate of public convenience and necessity were in operation that practice would be quickly stopped, and it should be.

"Regulation of motor transport would make for larger systems and for real competition. With the entrance of capital the number of operating companies undoubtedly would be reduced, but truck operation undoubtedly would be increased. There would be real co-ordination between truckmen and there would be a real transportation service on the highway. In addition there would be co-ordination between the railroad and the truckman."

Bus Bill Still Before Senate Committee

The Senate committee on interstate commerce met on May 6 for further consideration of Senator Couzens' bill to provide for the regulation of interstate bus transportation and a permit system for interstate truck operations, but reached no final conclusion on the bill, although it was decided to cover the proposed regulation of railroad holding companies (which was included in the bill as originally introduced) in a separate bill which was introduced by Senator Couzens on May 9 as S.4600.

Some members of the committee, interested in the plan for bus regulation, wanted to strike out of the bill the holding company provisions, while others, more interested in the latter than in bus regulation, also wanted an opportunity to vote for the holding company bill uncomplicated by the bus bill. Therefore it was decided that a separate bill should be introduced corresponding to the amend-

ments to Section 5 of the interstate commerce act proposed in the Rayburn bill, reported by the House committee. No final conclusion was reached as to what should be included in the bus bill relating to acquisitions of motor transportation companies by railroads or holding companies. The committee had before it a report on the bus bill submitted by the legislative committee of the Interstate Commerce Commission, suggesting numerous changes in the Couzens bill, in accord with the recommendations made by the commission in its report on coordination of motor transportation. This was also accompanied by recommendations for holding company regulation and the commission took occasion again to urge enactment of a resolution, which it had proposed in its annual report, providing for investigation as to whether various forms of transportation are being subsidized.

Norfolk & Western Travel Bargains

A variety of travel bargains including round-trip vacation fares, week-end fares, tourist rates to many sections of the country, special trips to the Virginia seashore, and other inducements are being offered the vacationist by the Norfolk & Western for the spring and summer, according to an extensive schedule announced by passenger officials of the railroad.

Special 16-day vacation fares to the Virginia seashore from Columbus, Cincinnati and Portsmouth, Ohio, and other western points on the N. & W. will be available for trips on June 25; July 9 and 23; August 6, 20 and 27. Tickets will be good on all fast trains, with the privilege of stop-overs. Round-trip bargain tickets to the seashore are being sold each Sunday from Richmond and Petersburg and from Norfolk and the seashore to Petersburg and Richmond. The railroad will also operate baseball excursions every Sunday to September 25, from Kenova, W. Va., Ironton and Portsmouth, Ohio and intermediate points to Cincinnati.

One of the features of the excursion season will be the 60-day summer "Circle Tours." These tours include the important commercial centers, historic points, national playgrounds and scenic wonders of the east. The only limitation is that the tour be completed within 60 days from the time the ticket is purchased. In addition, the N. & W. is participating in the record low round-trip fares (at one and one-tenth of the regular one way fares) effective in Trunk Line and Central Passenger Association territories, every week-end to September 3.

Other N. & W. specials include summer tourist tickets, on sale every day from May 15 to September 30; 10-day limit round-trip fares to all stations in Ohio; reduced week-end fares to all stations in West Virginia, Virginia and North Carolina; and low round-trip Memorial Day fares (on regular trains and special Pullmans) on May 27, to New York and Philadelphia.

Foreign

Brig.-Gen. Baring, Southern Railway Chairman, Dies

Brigadier-General the Hon. Everard Baring, chairman of the Southern Railway Company of Great Britain, died at London on May 7, at the age of 66. General Baring, who was a son of Charles Edward Baring, first Baron Revelstoke, entered the British army in 1884, serving in the Sudan and in India, and being promoted to brigadier-general in 1918.

Great Western Program for 1932

For the year 1932, the Great Western of Great Britain has authorized an extensive program of rolling stock construction and of improvements to track and structures, details of which follow:

Construction of 10 locomotives of the 4-6-0 "Castle" class, as used on the "Cheltenham Flyer," the world's fastest train; construction of 20 locomotives of the 4-6-0 "Hall" class; construction of 60 tank locomotives, 0-6-0 type, for suburban service; construction of 163 passenger cars, of various types; construction of 760 freight cars, of various types, including 150 container cars.—All to be built at the railroad's Swindon shops, at a total cost of approximately £885,000 (roughly equivalent to $4,310,000, with the pound sterling converted at its par value).

Station and other improvements, requiring a total expenditure of £100,000 ($487,000), at Paddington (London), Oxford, Stratford-on-Avon, and other points.

Improvements costing £50,000, to freight facilities at various points.

Rail renewal on 370 miles of track, and renewal of ties on 65 track miles, requiring the use of 33,000 tons of rail, 670,000 cross ties, many of which will be steel; 300,000 tons of ballast, and 22,600 tons of track accessories. In addition, some 9,000 tons of structural steel will be used in the reconstruction of bridges and buildings, while two historic landmarks will disappear as a result of the year's engineering program, since the last in use of Brunel's famous wooden viaducts, constructed in 1863 and 1862 on the Falmouth branch, at College Wood and Ringwell, will be replaced by a permanent arched structure and an embankment, at a combined cost of £85,000. The reconstruction of Carnon viaduct, another old timber bridge, is now in progress.

The sum of £353,000 ($1,719,110) has been appropriated for new steamers, two of which are for use on the Fishguard-Rosslare Irish cross-channel services, while considerable expansion of the Great Western's highway services is foreshadowed by the recent purchase of 227 motor vehicles, as reported in the *Railway Age* of January 16.

The foregoing projects are all additional to those on which work has already been started and is to be continued in 1932, including modernization of docks, station and shop improvements, additional track, installation of light signals, etc.

Equipment and Supplies

FREIGHT CARS

THE GENERAL CHEMICAL COMPANY has ordered two tank cars of 7,000 gal. capacity from the American Car & Foundry Company.

THE UNION TANK CAR COMPANY has ordered five tanks for tank cars from the Graver Tank & Manufacturing Corporation. Inquiry for five cars was reported in the *Railway Age* of April 23.

THE ALASKA RAILROAD has ordered 10 hopper ballast cars of 50 tons' capacity from the General American Car Company. Inquiry for this equipment was reported in the *Railway Age* of March 19.

PASSENGER CARS

THE INTERBOROUGH RAPID TRANSIT COMPANY, New York, has ordered 50 passenger cars for operation in the subway, from the American Car & Foundry Company. Inquiry for this equipment was reported in the *Railway Age* of March 5.

IRON & STEEL

THE UNION PACIFIC has ordered 2,600 tons of structural steel for miscellaneous work, equal amounts being placed with the American Bridge Company and the Consolidated Steel Corporation.

THE ILLINOIS CENTRAL has ordered 4,500 tons of steel rails, placing 2,250 tons with the Bethlehem Steel Company, 1,250 with the Illinois Steel Company, and 1,000 with the Inland Steel Company.

THE GREAT NORTHERN has ordered 10,000 tons of 110-lb. intermediate manganese steel rail and fastenings, dividing the order in approximately equal amounts among the Illinois Steel Company, the Inland Steel Company, and the Bethlehem Steel Company.

THE MAINE CENTRAL has recently announced that during February it placed orders for 1,000 tons of rail with the Bethlehem Steel Company; 23,665 Fair rail anchors with the P. & M. Company and 5,000 Stead anchors with the American Fork & Hoe Company.

MOTOR TRANSPORT

THE PENNSYLVANIA GREYHOUND LINES, motor coach operating affiliate of the Pennsylvania, has received five Type 250, 33-passenger motor coaches from the General Motors Truck Company, Pontiac, Mich.

MISCELLANEOUS

THE DELAWARE, LACKAWANNA & WESTERN has entered into a contract with

the Carnegie Steel Company to furnish its requirements of solid steel wheels, estimated at 1,500, for the year ending April 1, 1933.

Western Lines Take Men Back

Approximately 1,500 track employees on the Illinois Central were taken back on a full-time basis on May 1, while in addition, 1,000 part-time employees were placed on full-time schedules. During May the company expects to double its April expenditures for track maintenance which amounted to approximately $550,000. The Chicago, Milwaukee, St. Paul & Pacific has added more than 1,600 men to its track gangs, while the Missouri Pacific added 750 employees to its shop forces at Little Rock, Ark., and Sedalia, Mo.

Supply Trade

The MacLean-Fogg Lock Nut Company, Chicago, has opened an office in the Paul Brown building, St. Louis, Mo., under the management of **A. W. MacLean.**

The American Steel & Wire Company, a subsidiary of the **United States Steel Corporation** has opened a new warehouse at 2364 South Ashland avenue, Chicago, to supplant its former local warehouse at 403 West Lake street.

John H. Locke, manager of operations of the **General Steel Castings Corporation,** Eddystone, Pa., was elected a vice-president of the corporation at the annual meeting on May 4; all the other officers and directors were re-elected.

Ambrose N. Diehl, a vice-president of the **United States Steel Corporation,** on June 1 will succeed **A. T. DeForest** as president of the **Columbia Steel Company,** San Francisco, Cal., a subsidiary of the United States Steel Corporation. Mr. DeForest will retire on that date under the corporation's pension plan.

A. P. Jenks, assistant to vice-president of the **J. G. Brill Company,** with headquarters at Chicago, will be placed in charge of gas-electric car sales in the Chicago territory, following the resignation of **A. F. McCormick,** sales agent, who will become a representative of the **Grinnell Company,** Grinnell, Iowa, effective June 30.

The Sanford Mills, Sanford, Me., has acquired **L. C. Chase & Co.,** which served as selling agents for the Sanford Mills, the Reading Rubber Manufacturing Company and the Troy Blanket Mills, and will operate the company as a subsidiary to serve as the distributing division for the three mills as L. C. Chase & Co., Inc.

J. S. Tritle, vice-president and general manager of the **Westinghouse Electric & Manufacturing Company,** East Pittsburgh, Pa., has been elected also vice-president in charge of operations of the **Westinghouse Electric Supply Company,** wholesale distributor of Westinghouse products to electrical dealers, contractors and industrial establishments.

Ward B. Perley, president of the **Canadian Steel Corporation, Ltd.,** a subsidiary of the **United States Steel Corporation,** with plants at Ojibway, Ontario, will retire on July 1, under the corporation's pension plan and will be succeeded by **J. W. Seens,** president of the **Canadian Bridge Company, Ltd.,** Walkerville, Ont., who will also continue in the latter position.

D. W. Russell, railway representative of the **Fargo Motor Corporation,** Detroit, Mich., has been promoted to vice-president in charge of railway sales. In this capacity he will supervise the sales of all Fargo products to railroads and their affiliated companies. Before joining the Fargo organization in August, 1931, Mr. Russell was vice-president and general manager of the Southwestern Transportation Company, motor coach and truck operating subsidiary of the St. Louis Southwestern.

W. H. Stewart has been elected president of the **Pacific Coast Steel Corporation,** with headquarters at San Francisco, Cal. The Pacific Coast Steel Corporation is a **Bethlehem Steel Corporation** subsidiary. Mr. Stewart, since 1923, has been vice-president of Bethlehem Steel Export Corporation, New York, in charge of Bethlehem's foreign business. He succeeds to the position formerly held by **D. E. McLaughlin,** who retired some months ago. **S. M. Bash** has been elected vice-president of **Bethlehem Steel Export Corporation,** he formerly held the office of assistant to the vice-president.

Champ Carry, vice-president of the **Pullman Car & Manufacturing Corp.,** has been elected vice-president and assistant to the president of the **Pullman Company.** Mr. Carry was born in Lockport, Ill., and was educated at Cornell University. In 1918, he entered an officers' training camp, and was commissioned first lieutenant in the Eighteenth Field Artillery, Third Division. While in France, he was awarded a distinguished service cross. After the war, in 1919, he was appointed sales agent for the Haskell & Barker Car Co., and when this company was taken over by the Pullman Company in 1922, he became sales agent for the latter company. In 1924, upon the organization of the Pullman Car & Manufacturing Corp., he was appointed sales manager, which position he held until December 24, 1929, when he was elected vice-president. With his election as vice-president of the Pullman Company, he relinquishes his duties with the Car Company.

J. Frederic Byers, vice-president of **A. M. Byers Company,** Pittsburgh, Pa., who has been elected chairman of the board succeeding his brother, the late E. M. Byers, is a son of the founder of the company. J. Frederic Byers was graduated from Yale University in 1904 and since that time has been continuously identified with the company, serving since 1905 as vice-president. He is also a director of the Westinghouse Air

J. Frederic Byers

Brake Company, the Union Switch & Signal Company and a number of banking organizations of Pittsburgh.

OBITUARY

Donald M. Ryerson, chairman of the board of Jos. T. Ryerson & Son, Inc., died suddenly at Lake Forest, Ill., on May 8. He was born in Chicago on December 2, 1884, and was graduated from Yale University in 1907. He entered the employ of the Ryerson company as vice-president and general manager, which position he held until 1928, when he was elected chairman of the board to succeed his father, Edward L. Ryerson, Sr., who died in January of that year. Besides his connection with the Ryerson firm, he was president of the Reed-Smith Company, an affiliated company. During the World War he was engaged for a time in supervising the construction of submarine chasers at the plant of the Great Lakes Boat Building Corp., and later was originator of the "Four-Minute Men," an organization of patriotic speakers that functioned during the Liberty loan drives. He was sent to the U. S. Naval Academy to attend the first reserve officers class with the rank of ensign in 1917, and resigned after attaining the rank of lieutenant in overseas destroyer service.

TRADE PUBLICATION

STEAM ENGINES AND GENERATING SETS.—The Troy Engine & Machine Company, Troy, Pa., has issued a 12-page folder giving a summary of six performance surveys of various applications of Troy-Engberg steam engines and generating sets under different operating conditions and in widely varying parts of the country. The surveys were made by impartial outside interests.

Construction

CHESAPEAKE & OHIO.—This company has authorized an expenditure of approximately $25,000 for extending and relining a 24-ft. culvert at Sabot, Va.

PUBLIC SERVICE COMMISSION OF NEW YORK.—Plans and an estimate of cost amounting to $131,200 for the elimination of a grade crossing of the Baltimore & Ohio located just east of Mumford station, Wheatland, N. Y., have been approved by the New York Public Service Commission. The commission has reopened proceedings for the elimination of Barrys crossing of the New York Central, 1½ miles east of Mertensia, Farmington, N. Y.; and has closed proceedings for the elimination of an N. Y. C. grade crossing in Saugerties, N. Y., and of the River Road crossing of the Delaware, Lackawanna & Western in Cortlandville, N. Y.

STOCKTON (CAL.) PORT TERMINAL ASSOCIATION.—As a part of the development of the new inland port of Stockton, Cal., the Interstate Commerce Commission has authorized the city of Stockton to construct new railroad lines from connections with existing lines (in the city of Stockton) of the Atchison, Topeka & Santa Fe, the Southern Pacific and the Western Pacific to a point on the east bank of the San Joaquin river. The commission has also authorized the three foregoing railroads to construct, jointly, a new line from the same point on the east bank of the San Joaquin river to and on Rough and Ready Island, the proposed site of a new industrial area. The combined projects, on which work is to be started by June 1, involve the construction of about six miles of railroad and of a drawbridge across the San Joaquin river, at a total estimated cost of $500,000. Under operating and financial agreements of November 28, 1931, the city of Stockton and the Atchison, Topeka & Santa Fe, the Southern Pacific and the Western Pacific will organize the Stockton Port Terminal Association, to provide general terminal switching service, the new terminal tracks to be operated by the three trunk line railroads, in rotation, for one year each.

UNITED STATES GOVERNMENT (New York Post Office).—Bids have been received in the office of the Supervising Architect, United States Treasury Department, for the construction, at a cost of not over $1,800,000, of the substructure of an addition to the general post office in New York City. The present building, which fronts on Eighth avenue between West Thirty-first and West Thirty-second streets, occupies approximately one-half of the block between Eighth and Ninth avenues, and is built over the tracks of the Pennsylvania Railroad, at the west end of the Pennsylvania station. The extension, forming a single unit with the existing structure, and occupying the remainder of the block, will complete the enclosure of the railroad yards, as well as the utilization of air rights over those yards, as far as the area east of Ninth avenue is concerned. Part of the basement of the extension will be occupied by the Pennsylvania, for the purpose of receiving, dispatching and delivering mail; and mail-conveying equipment between that section of the building and station platforms will be installed, when necessary, by the railroad. The new addition, as designed by McKim, Mead & White, New York City architects, will follow the general lines of the present structure, being set back from Thirty-first and Thirty-second streets in conformity therewith. The sum of $7,000,000 has been appropriated for construction, including foundations, but exclusive of land.

Financial

ATCHISON, TOPEKA & SANTA FE.—*Control of California, Arizona & Santa Fe.*—The Interstate Commerce Commission has authorized this company to control by lease the lines of the California, Arizona & Santa Fe, except the line between Needles, Cal. and Mojave.

ATLANTA, BIRMINGHAM & COAST.—*Annual Report.*—The 1931 annual report of this company shows net deficit after interest and other charges of $906,708 as compared with net deficit of $598,544 in 1930. Selected items from the Income Statement follow:

	1931	1930	Increase or decrease
RAILWAY OPERATING REVENUES	$3,327,528	$4,098,580	—$771,052
Maintenance of Way	821,653	979,940	— 158,286
Maintenance of Equipment	816,727	918,150	— 101,422
Transportation	1,603,577	1,752,053	— 148,477
TOTAL OPERATING EXPENSES	3,893,501	4,354,938	— 461,437
Operating ratio	117.01	106.25	+ 10.76
NET REVENUE FROM OPERATIONS	*565,973	*256,358	— 309,615
Railway tax accruals	185,442	190,559	— 5,117
Railway operating income	*753,213	*447,921	— 305,292
Hire of freight cars—Dr.	190,841	204,584	— 13,743
Joint facility rents—Dr.	14,108	12,637	+ 1,471
Non-operating income	56,915	73,079	— 16,165
GROSS INCOME	*696,298	*374,842	— 321,456
TOTAL DEDUCTIONS FROM GROSS INCOME	210,409	223,702	— 13,293
NET INCOME	*906,708	*598,544	+ 308,163

* Deficit.

ATLANTIC COAST LINE.—*Annual Report.*—The 1931 annual report of this company shows net income after interest and other charges of $2,020,858, compared with net income of $3,784,310 in 1930. Selected items from the Income Statement follow:

	1931	1930	Increase or decrease
RAILWAY OPERATING REVENUES	$54,088,005	$63,019,957	—$8,931,952
Maintenance of Way	7,956,881	9,787,465	— 1,830,584
Maintenance of Equipment	10,862,488	12,513,108	— 1,650,620
Transportation	20,105,138	22,643,245	— 2,538,107
TOTAL OPERATING EXPENSES	43,188,471	49,685,460	— 6,496,989
Operating Ratio	88.68	87.61	+ 1.07
NET REVENUE FROM OPERATIONS	10,899,534	13,334,497	— 2,434,963
Railway tax accruals	4,775,000	5,525,000	— 750,000
Railway operating income	6,111,407	7,779,646	— 1,668,239
Hire of Equipment—(Dr.)	1,395,248	557,377	+ 837,871
Non-operating income	5,121,913	4,548,311	+ 573,602
GROSS INCOME	11,233,320	12,327,957	— 1,094,637
Rent for leased roads	82,576	82,576	.....
Interest on funded debt	*6,322,207	*6,322,207	.....
TOTAL DEDUCTIONS FROM GROSS INCOME	9,212,462	8,543,647	+ 668,815
NET INCOME	2,020,858	3,784,310	— 1,763,452

* Does not include interest on Company's bonds held in the treasury or pledged.

BALTIMORE & OHIO.—*Bonds.*—The Interstate Commerce Commission has authorized this company to issue $55,813,000 of 6 per cent series E refunding and general mortgage bonds to be pledged as collateral security for notes issued under section 20a (9) of the interstate commerce act. Subsidiaries have been authorized to deliver $12,861,000 of their bonds to trustees under certain B. & O. mortgages.

CAIRO, TRUMAN & SOUTHERN.—*R.F.C. Loan.*—This company has filed a second application to the Interstate Commerce Commission and the Reconstruction Finance Corporation for a loan of $75,000. The commission recently denied approval of the application on the ground that the money was to be used to pay indebtedness to the lumber company that controls the railroad and also that the corporation would not be adequately secured.

CAMBRIA & INDIANA.—*Proposed Recapture Report.*—Examiner R. T. Boyden of the Interstate Commerce Commission in a proposed report recommends a finding that this company had earned $2,035,621 in excess of 6 per cent on its valuation in the years 1920 to 1927.

CANADIAN PACIFIC.—*Annual Meeting.*—With the company's property maintained to a high point of efficiency, with management which has been tried by heavy losses due to general economic conditions and inability to secure adequate freight rates, the Canadian Pacific stands today in a position to meet what developments may come about, and views the future, if not with a certainty as to immediate national prosperity, at least with serenity. Such are the points to which E. W. Beatty, president of the company, called the attention of the shareholders at the annual

meeting held in Montreal last week. The owners of the great transportation system showed full confidence in the management, and at the conclusion of Mr. Beatty's remarks there was an outbreak of applause. Mr. Beatty was closely followed in his remarks as to the liquid position of the company, and the necessity for such being the case, and a resolution was unanimously passed approving of a debenture issue up to 50 millions so that the directors may be able to meet all eventualities with money borrowed at 4 per cent. The place left vacant on the board of directors by the death of Sir Vincent Meredith, Bart., was filled by the election of John W. Hobbs, of Toronto, president of the Consolidated Plate Glass Company, and a director of the Imperial Bank of Canada.

CHICAGO, INDIANAPOLIS & LOUISVILLE.—*R. F. C. Loan.*—This company has applied to the Interstate Commerce Commission for authority to issue a promissory note for $602,275 for a loan from the Reconstruction Finance Corporation. The company has applied for a loan of $750,000 to pay bond interest of which $147,725 has been advanced.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—*Acquisition and Abandonment.*—The Interstate Commerce Commission has authorized this company to acquire by purchase that part of the Ontonagon R.R. extending from the Michigan village of the same name to the west switch of Miner's Spur, 2.5 miles, and to abandon that portion of its line between Green, Mich., and White Pine Junction, 11 miles.

CHICAGO, ROCK ISLAND & PACIFIC.—*R.F.C. Loan.*—This company has applied to the Interstate Commerce Commission and the Reconstruction Finance Corporation for a loan of $10,000,000, including $4,621,519 for fixed interest charges up to September 1, $4,375,000 to pay one-half of bank loans from eight banks due at various dates from May 15 to August 1, and $1,003,480 for the principal of equipment trust obligations. The company has also applied to the Railroad Credit Corporation for a loan to meet the interest requirements. Accompanying the application was an estimate indicating a net deficit for the year of $11,190,294.

CHICAGO, ROCK ISLAND & PACIFIC.—*Stockholders' Meeting.*—Unification of the 11 separate properties, which form the Chicago, Rock Island & Pacific into one system, was approved by the stockholders at the annual meeting at Chicago on May 5. The purpose of the consolidation is to prepare the way for refinancing in 1934, when the first refunding mortgage bonds of the Rock Island, Arkansas & Louisiana and mortgage issues of other subsidiaries become due. Unification of the system will make a new bond issue more readily marketable as a direct lien on all the property of the system can be offered. The stockholders voted to re-elect all retiring directors except Jesse Hirschman and P. G. Ten Eyck, both of whom retired. E. G. Wilmer, New York, and Hamilton Moses, Little Rock, Ark., were elected to succeed them.

CINCINNATI, NEW ORLEANS & TEXAS PACIFIC.—*Annual Report.*—The 1931 annual report of this company shows net income after interest and other charges of $622,176, as compared with net income of $2,724,934 in 1930. Selected items from the Income Statement follow:

	1931	1930	Increase or Decrease
Average Mileage Operated	338.17	338.17	.....
RAILWAY OPERATING REVENUES	$14,388,299	$18,041,950	—$3,653,651
Maintenance of way	2,580,700	2,742,279	— 161,579
Maintenance of equipment	3,538,655	4,098,228	— 559,573
Transportation	4,337,939	5,345,747	— 1,007,808
TOTAL OPERATING EXPENSES	11,550,826	13,384,156	— 1,833,330
Operating ratio	80.28	74.18	+ 6.10
NET REVENUE FROM OPERATIONS	2,837,474	4,657,794	— 1,820,320
Railway tax accruals	790,685	1,042,782	— 252,097
Railway operating income	2,046,108	3,620,613	— 1,574,505
Hire of equipment	71,798	78,598	— 6,800
Joint facility rents	71,769	71,924	— 155
Non-operating income	387,618	916,571	— 528,953
GROSS INCOME	2,433,727	4,537,184	— 2,103,457
Rent for leased roads	1,642,755	1,674,245	— 31,490
TOTAL DEDUCTIONS FROM GROSS INCOME	1,811,550	1,812,250	— 700
NET INCOME	622,176	2,724,934	— 2,724,934

DENVER & RIO GRANDE WESTERN.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon its line from Lake Junction, Colo., to Lake City, 35.81 miles.

FORT DODGE, DES MOINES & SOUTHERN.—*R.F.C. Loan.*—The receiver has applied to the Interstate Commerce Commission and the Reconstruction Finance Corporation for a loan of $200,000 to pay taxes, bills for materials and supplies, and the estimated operating deficit for the year.

GEORGIA & FLORIDA.—*R.F.C. Loan.*—Expressing doubt as to whether this railroad can survive, unless conditions speedily improve, Division 4 of the Interstate Commerce Commission on May 5 approved a loan of $271,221 from the Reconstruction Finance Corporation to the receivers, to "enable it to carry on for some time longer in any event", but withheld its approval of the amounts asked to refund receivers' certificates and pay equipment trust certificates. The receivers had asked for a loan of $1,000,000. The amount approved is to pay $12,500 interest due March 15 on equipment trust certificates, $172,052 for accrued taxes, and $86,669 of audited vouchers for materials and supplies and for operating expenses. It was pointed out that the railroads had borrowed $792,000 from the revolving fund in 1920 which is still in default, with 6 per cent interest from July 1, 1929. "We believe it to be essential," the report said, "that the shippers and communities that are dependent upon this railroad should be given to understand that there is grave danger that they may lose its service, and that if they wish it to continue to operate they must do everything within their power to support it and increase the traffic which moves over it." It also said that the loan approved would be adequately secured even if it becomes necessary hereafter to discontinue operation and that it will afford the management an opportunity to develop the possibilities of traffic increases and reduction in operating expenses which they have brought to the commissioner's attention. "It will also give the shippers and communities an opportunity to rally to its support in every way within their power."

ILLINOIS CENTRAL.—*Abandonment.*—The Interstate Commerce Commission has authorized the Chicago, St. Louis & New Orleans to abandon and the Illinois Central to abandon operation of the former company's 4.4-mile branch extending from Moffat, Tenn., to Troy.

LEHIGH VALLEY.—*Equipment Trust.*—The Interstate Commerce Commission has authorized this company to assume liability for $2,078,000 of 5 per cent equipment trust certificates, half being series T and the other half series U to be delivered at par to locomotive builders in connection with the acquisition of new power.

LOUISIANA & ARKANSAS.—*Trackage.*—The Interstate Commerce Commission has authorized the Louisiana, Arkansas & Texas to operate under trackage rights over the Missouri-Kansas-Texas of Texas between Greenville, Tex., and Dallas, 54 miles.

LOUISVILLE & NASHVILLE.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon its line from Iron City, Tenn., to Pinkney, 11.66 miles.

NEW YORK CENTRAL.—*Abandonment.*—The Interstate Commerce Commission has authorized the abandonment of the 0.8-mile line of the Findlay Belt, in Findlay, Ohio, and of that part of the Findlay branch of the Cincinnati, Sandusky & Cleveland extending 9.8 miles eastward from Findlay.

NEW YORK, CHICAGO & ST. LOUIS.—*Annual Report.*—The 1931 annual report of this company shows net deficit after interest and other charges of $210.413, as compared with net income of $4,396,744 in 1930. Selected items from the Income Statement follow:

	1931	1930	Increase or Decrease
RAILWAY OPERATING REVENUES	$36,551,359	$46,533,186	—$9,981,827
Maintenance of way	4,925,510	6,078,736	— 1,153,226
Maintenance of equipment	6,376,526	8,799,383	— 2,422,857
Transportation	14,119,310	17,245,757	— 3,126,446

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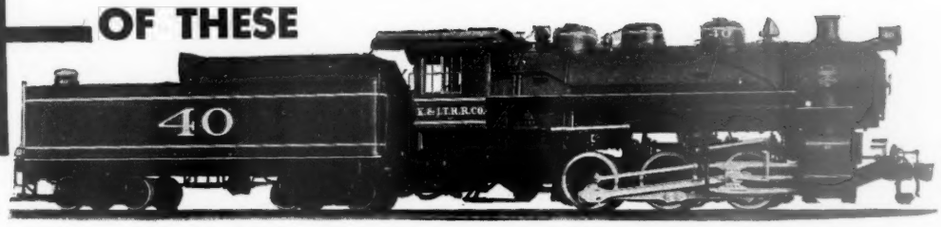

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replaced TWELVE old switchers

Eight modern Lima-built switchers have replaced twelve old switchers on the Kentucky and Indiana Terminal Railroad, with the following results:

1. 25% reduction in fuel consumption.
2. 27% improvement in operating efficiency. Large tenders work through a full shift without stopping for water or coal.

New switching power, such as this, quickly justifies its purchase both in operating economies and in improved service.

LIMA LOCOMOTIVE WORKS INCORPORATED

LIMA LOCOMOTIVE WORKS • Incorporated • LIMA • OHIO

	1931	1930	Increase or Decrease
Total Operating Expenses	28,317,786	35,111,798	— 6,794,012
Operating ratio	77.47	75.46	+ 2.01
Net Revenue from Operations	8,233,573	11,421,388	— 3,187,815
Railway tax accruals	2,476,821	2,567,618	— 90,797
Railway operating income	5,750,237	8,841,795	— 3,091,558
Equipment rents—Net Dr.	2,703,983	2,714,066	— 10,083
Joint facility rents—Net Dr.	504,155	478,976	+ 25,180
Net Railway Operating Income	2,542,098	5,648,754	— 3,106,656
Non-operating income	5,082,997	6,675,246	— 1,592,250
Gross Income	7,625,095	12,324,001	— 4,698,905
Rent for leased roads	211,111	258,331	— 47,220
Interest on funded debt	7,346,860	7,529,039	— 182,179
Total Deductions from Gross Income	7,835,508	7,927,257	— 91,749
Net Income	*210,413	4,396,744	— 4,607,156

* Deficit

Norfolk Southern.—*R.F.C. Loan.*—This company has applied to the Interstate Commerce Commission and the Reconstruction Finance Corporation for a loan of $325,000 to pay 1931 taxes and penalties due the state of North Carolina.

Pennsylvania.—*Reduces Application for R.F.C. Loan.*—The Pennsylvania has reduced its application for a loan of $55,000,000 from the Reconstruction Finance Corporation to $27,500,000, at the request of the Finance Corporation and because of changed conditions, expressing willingness to provide the other half of the amount by sale of securities through banking and investment channels and to furnish itself the balance of $13,000,000 necessary to continue its electrification work at a cost of $68,000,000, upon the understanding that the Finance Corporation will definitely commit itself at this time to make the loan of $27,500,000 on October first.

Southern Pacific.—*Bonds.*—This company has applied to the Interstate Commerce Commission for authority to pledge as collateral for short-term notes all or any part of an issue of $12,793,000 of bonds of its subsidiary, the Arizona Eastern.

St. Louis Southwestern.—*Securities.*—The Interstate Commerce Commission has authorized this company to issue $4,500,000 of promissory notes to be secured by $6,375,000 of its series A, 5 per cent general and refunding mortgage bonds and $132,000 of Southern Illinois & Missouri Bridge 4 per cent first mortgage bonds, and to issue $750,000 of promissory notes to the Railroad Credit Corporation, to be secured by its equity in bonds pladged with the Reconstruction Finance Corporation.

Tuckerton.—*R. F. C. Loan.*—This company has applied to the Interstate Commerce Commission and the Reconstruction Finance Corporation for a loan of $50,000 to pay notes, taxes, and interest and porvide working capital.

Western Maryland.—*Bonds.*—The Interstate Commerce Commission has authorized this company to procure the authentication and delivery of $1,384,000 of first and refunding mortgage 5½ per cent series A bonds in partial reimbursement of capital expenditures.

Wheeling & Lake Erie.—*Annual Report.*—The 1931 annual report of this company shows net income after interest and other charges of $753,743, as compared with net income of $2,647,819 in 1930. Selected items from the Income Statement follow:

	1931	1930	Increase or Decrease
Average Mileage Operated	511.60	511.60	.....
Railway Operating Revenues	$11,617,713	$16,358,984	—$4,741,271
Maintenance of way	1,378,756	1,875,038	— 496,282
Maintenance of equipment	3,016,427	4,213,092	— 1,196,665
Transportation	3,929,850	4,899,685	— 969,835
Total Operating Expenses	9,256,066	11,977,414	— 2,721,348
Operating ratio	79.67	73.22	— 6.45
Net Revenue from Operations	2,361,647	4,381,571	— 2,019,924
Railway tax accruals	1,115,289	1,451,524	— 336,235
Railway operating income	1,246,933	2,929,714	— 1,682,781
Non-operating income	497,677	672,529	— 174,852
Gross Income	1,744,610	3,602,242	— 1,857,632
Interest on funded debt	765,128	791,928	— 26,800
Total Deductions from Gross Income	990,866	954,423	+ 36,443
Net Income	753,743	2,647,819	— 1,894,076

White River.—*R.F.C. Loan.*—The Interstate Commerce Commission has approved a loan of $16,000 to this company, on an application for $25,000, but has deferred consideration of the $9,000 asked to meet the estimated operating deficit for the year.

Average Prices of Stocks and of Bonds

	May 10	Last week	Last year
Average price of 20 representative railway stocks	18.24	17.76	73.06
Average price of 20 representative railway bonds	56.83	57.50	92.76

Dividends Declared

Cleveland & Pittsburgh.—Seven per cent guaranteed, 87½c, quarterly; special guaranteed, 50c, quarterly, both payable June 1 to holders of record May 10.

Hudson & Manhattan.—Common, 1¼ per cent, semi-annually, payable June 1 to holders of record May 16.

Railway Officers

FINANCIAL, LEGAL AND ACCOUNTING

R. C. Krebs, auditor of the Tonopah & Tidewater, has also been appointed cashier, succeeding **H. Escherich,** retired. Mr. Krebs will have headquarters at Wilmington, Cal., as before.

C. B. Anderson, special representative in the office of the vice-president and general manager of the Chicago & Eastern Illinois, at Chicago, has been appointed freight claim agent, with headquarters at the same point, to succeed **H. H. Eldridge,** who has retired.

Birt Vickery, cashier of the Chicago, Burlington & Quincy, has been elected assistant treasurer, with headquarters as before at Omaha, Neb., to succeed **C. J. Ernst,** assistant treasurer and assistant secretary, who has retired. **G. C. Shindel,** paymaster at Omaha, has been appointed also cashier, to succeed Mr. Vickery.

William P. Terry, who was recently appointed secretary of the Richmond, Fredericksburg & Potomac, was born at Richmond, Va., on January 7, 1894, and received his education at public schools and at Massey Business College. He became connected with the R. F. & P. on September 23, 1907, as a messenger boy in the train dispatcher's office, and was advanced through various positions until he became secretary to the president. In 1920 he was appointed assistant secretary of the R. F. & P., which position he held at the time of his recent promotion to the position of secretary of that company.

The land department of the Chicago, Burlington & Quincy has been consolidated with the tax department and henceforth will be under the jurisdiction of the law department. **J. A. Connell,** general attorney and tax commissioner, with headquarters at Chicago, has also been placed in charge of real estate matters with the title of general attorney, land and tax commissioner. **O. F. Scudder,** land and industrial commissioner of the Lines East of the Missouri River, has been appointed to the newly-created position of real estate agent of the same territory, with headquarters as before at Chicago, and the position of land and industrial commissioner has been abolished. **J. M. Saxton,** assistant land and industrial commissioner of the Lines West of the Missouri River, has been appointed to the newly-created position of real estate agent of those lines, with headquarters as before at Lincoln, Neb., and his former position has also been abolished. **F. S. Pollard,** tax agent at Omaha, Neb., has been transferred to Lincoln, and **P. F. Hornish,** tax agent at St. Louis, Mo.,

(Continued on page 848)

Tables of Revenues and Expenses of Railways begin on next left-hand page

Revenues and Expenses of Railways

MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1932

Name of road		Av. mileage operated during period.	Operating revenues: Freight.	Passenger.	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures.	Maintenance of Equipment.	Traffic.	Transportation.	General.	Total.	Operating ratio.	Net from railway operation.	Operating income (or loss).	Net ry. operating income.	Net ry. operating income, 1931.
Akron, Canton & Youngstown	March	171	$144,199	$55	$151,402	$13,036	$13,597	$10,761	$42,763	$13,413	$93,570	61.8	$57,832	$45,748	$35,750	$39,915
	3 mos.	171	387,403	134	410,813	37,600	39,125	30,533	127,200	31,758	266,216	64.8	144,597	108,315	77,328	74,515
Alton	March	1,017	989,411	185,022	1,315,439	102,353	1,001,834	70,301	525,052	44,441	1,739,600	133.8	—444,161	—554,685	—681,375	31,867
	3 mos.	1,017	2,678,992	596,551	3,687,783	353,691	1,389,106	208,392	1,568,486	174,505	3,745,414	101.6	—57,631	—386,772	—769,269	—122,385
Alton & Southern	March	31	.....	.....	94,907	6,777	7,255	5,256	30,695	4,390	54,373	57.29	40,534	31,332	28,086	17,699
	3 mos.	31	.....	.....	246,538	21,503	18,408	16,186	87,131	14,197	157,425	63.85	89,113	64,754	55,247	49,639
Atchison, Topeka & Santa Fe	March	9,723	7,240,575	1,146,908	9,292,373	997,837	2,471,429	356,516	3,157,928	397,114	7,372,898	79.3	1,919,475	900,547	906,801	1,697,408
	3 mos.	9,723	20,522,331	3,772,626	26,814,640	2,818,589	7,308,924	1,132,968	9,791,483	1,173,461	22,206,541	82.8	4,608,099	1,707,580	1,860,639	4,665,300
Gulf, Colorado & Santa Fe	March	1,955	1,132,207	50,582	1,262,892	187,239	318,568	54,068	436,291	84,051	1,079,120	85.4	183,772	83,994	—26,846	—162,496
	3 mos.	1,955	3,281,415	161,714	3,661,082	492,708	929,505	168,767	1,350,295	228,304	3,170,710	86.6	490,372	190,983	—116,934	—429,900
Panhandle & Santa Fe	March	1,876	607,695	31,105	695,795	126,185	182,703	21,258	224,661	30,351	584,856	84.1	110,939	53,926	—36,405	—65,897
	3 mos.	1,876	1,858,925	107,585	2,127,432	396,927	542,159	63,136	709,566	94,835	1,803,700	84.8	323,732	152,815	—104,750	—163,044
Atlanta & West Point	March	93	87,072	19,134	126,920	19,894	24,504	8,657	54,156	9,859	119,650	94.3	7,270	—740	—12,059	11,418
	3 mos.	93	235,774	65,748	357,534	55,887	76,698	26,933	162,707	30,395	362,086	101.3	—4,552	—35,402	—65,764	—13,332
Western of Alabama	March	133	91,869	21,523	127,921	17,635	34,439	8,623	50,879	9,861	123,659	96.7	4,262	—6,333	—159	27,781
	3 mos.	133	245,345	71,363	359,964	55,897	100,489	27,524	157,265	29,777	379,266	105.4	—19,302	—51,047	—34,625	35,309
Atlanta, Birmingham & Coast	March	641	222,727	5,472	255,560	55,686	64,963	22,135	102,730	16,196	269,664	105.5	—14,104	—29,519	—44,964	—64,498
	3 mos.	641	600,094	17,008	693,787	172,876	199,512	69,005	320,639	52,574	839,377	120.9	—145,590	—191,826	—237,457	—255,405
Atlantic Coast Line	March	5,144	3,148,213	735,661	4,336,522	559,579	814,200	132,008	1,488,468	150,140	3,190,838	73.6	1,145,684	544,916	389,663	1,603,230
	3 mos.	5,144	9,312,249	2,085,194	12,759,792	1,669,260	2,416,046	428,950	4,489,641	458,202	9,596,898	75.2	3,162,894	1,761,355	1,211,813	3,734,956
Charleston & Western Carolina	March	342	169,990	1,385	176,435	25,480	26,302	6,744	60,397	5,237	124,160	70.4	52,275	35,275	35,940	51,824
	3 mos.	342	444,456	5,826	465,144	68,187	79,461	20,270	187,466	16,059	371,299	79.8	93,845	43,821	39,310	70,592
Baltimore & Ohio	March	6,397	9,873,375	906,701	11,649,536	1,096,354	2,249,501	439,432	4,402,138	626,640	8,930,376	76.7	2,719,160	1,936,903	1,716,696	2,519,002
	3 mos.	6,397	28,668,976	2,774,154	33,888,037	3,057,526	6,585,395	1,280,409	13,235,808	1,943,327	26,421,164	78.0	7,466,873	5,130,162	4,474,203	4,560,723
Baltimore & Ohio Chic. Term	March	85	.....	.....	306,114	31,820	32,225	2,011	166,955	16,559	254,896	83.3	51,218	52,886	120,996	64,410
	3 mos.	85	.....	.....	867,672	77,053	139,148	6,231	460,755	55,151	755,344	87.1	112,328	6,820	260,711	168,873
Staten Island Rapid Transit	March	23	45,970	92,100	144,475	8,115	14,782	2,295	83,542	14,501	123,235	85.3	21,240	2,940	—13,581	—1,164
	3 mos.	23	145,229	279,836	445,350	22,888	41,174	6,530	256,278	43,473	370,343	83.2	75,007	20,607	—25,871	—461
Bangor & Aroostook	March	619	715,663	38,187	778,599	102,712	106,115	4,375	152,344	23,384	389,962	50.1	388,637	326,124	293,079	353,335
	3 mos.	619	1,916,599	94,701	2,080,366	264,278	290,367	13,651	445,972	72,092	1,089,517	52.4	990,849	817,387	741,952	842,339
Belt Ry. Co. of Chicago	March	53	.....	.....	354,776	23,519	33,513	3,096	185,610	7,671	253,409	71.4	101,367	48,831	81,895	150,503
	3 mos.	53	.....	.....	1,012,270	66,813	95,984	9,575	533,141	21,917	727,430	71.9	284,840	112,253	219,021	448,848
Bessemer & Lake Erie	March	226	246,267	1,667	255,340	35,809	188,288	12,613	116,025	41,277	394,010	154.3	—138,670	—164,259	—159,267	—182,742
	3 mos.	226	713,307	4,716	739,105	99,432	554,258	35,692	351,601	120,481	1,161,457	157.1	—422,352	—498,816	—471,807	—547,155
Boston & Maine	March	2,092	2,817,581	730,661	4,221,387	623,236	628,149	71,385	1,572,747	203,466	3,112,778	73.7	1,108,609	874,554	679,180	913,415
	3 mos.	2,092	7,965,105	2,320,943	12,160,752	1,816,238	1,836,002	220,652	4,736,640	576,103	9,224,002	75.9	2,936,750	2,239,126	1,668,813	2,447,533
Brooklyn Eastern Dist. Term	March	11	78,419	.....	79,528	5,407	7,575	5	25,146	6,245	44,378	55.8	35,150	28,276	28,276	41,134
	3 mos.	11	223,452	.....	226,085	16,198	22,944	410	73,036	19,015	131,603	58.2	94,482	74,361	74,361	113,878
Burlington-Rock Island	March	310	81,947	1,350	88,820	14,776	8,489	5,183	40,579	9,777	78,799	88.7	10,021	3,155	—10,498	—43,451
	3 mos.	310	283,641	5,957	305,492	55,073	30,852	15,931	133,181	28,514	262,894	86.1	42,598	21,926	—23,671	—121,656
Cambria & Indiana	March	37	104,418	.....	104,626	6,224	39,427	358	12,442	7,597	66,048	63.13	38,578	25,930	80,453	90,766
	3 mos.	37	299,098	.....	299,711	18,419	120,657	1,492	36,512	23,790	200,870	67.02	98,841	62,090	232,929	288,758
Canadian Pac. Lines in Maine	March	233	194,128	18,761	228,607	23,602	46,388	4,906	88,268	4,366	167,530	73.2	61,077	50,077	30,358	33,767
	3 mos.	233	577,337	54,346	675,079	88,357	130,143	14,711	258,349	12,194	503,754	74.6	171,325	138,325	76,869	58,789
Canadian Pac. Lines in Vermont	March	85	53,805	13,639	87,921	7,255	28,790	2,204	63,755	3,200	105,204	119.7	—17,285	—21,993	—43,612	—36,133
	3 mos.	85	158,157	48,894	263,414	34,265	78,190	6,531	188,386	8,978	316,350	120.1	—52,936	—67,066	—131,547	—128,359
Central of Georgia	March	1,944	899,477	111,821	1,149,313	117,020	194,084	56,079	478,613	73,179	928,218	80.8	221,095	119,020	97,641	384,774
	3 mos.	1,944	2,435,623	345,461	3,192,235	337,716	580,298	166,607	1,446,248	216,723	2,774,162	86.9	418,073	113,432	55,587	784,373
Central New Jersey	March	692	2,193,896	423,562	2,803,112	218,656	528,232	54,410	1,140,152	98,349	2,055,446	73.3	747,666	504,602	445,133	341,901
	3 mos.	692	6,169,107	1,307,963	7,998,472	625,875	1,535,740	145,880	3,346,639	304,824	6,007,887	75.1	1,990,585	1,309,957	1,100,511	1,137,242
Central Vermont	March	457	366,763	43,994	460,714	59,067	100,123	16,953	204,246	23,669	404,230	87.7	56,484	38,011	26,584	126,610
	3 mos.	457	1,008,494	154,596	1,302,605	188,831	282,329	47,754	621,377	66,599	1,207,953	92.7	94,652	41,451	13,857	237,660
Chesapeake & Ohio	March	3,144	7,850,396	233,304	8,429,140	856,019	1,460,697	155,083	2,020,056	327,351	4,837,934	57.4	3,591,206	2,802,930	2,866,022	2,366,291
	3 mos.	3,144	22,483,063	698,108	24,110,166	2,836,637	4,384,779	469,125	6,056,458	972,667	14,788,370	61.3	9,321,796	6,957,378	7,066,815	6,867,428
Chicago & Eastern Illinois	March	938	1,021,470	96,311	1,233,671	138,125	223,425	58,819	509,815	55,450	993,832	80.6	239,839	129,330	501	—68,839
	3 mos.	938	2,780,347	312,768	3,409,569	412,734	691,391	187,064	1,500,376	179,513	2,998,401	87.9	411,168	79,564	—304,413	—510,747

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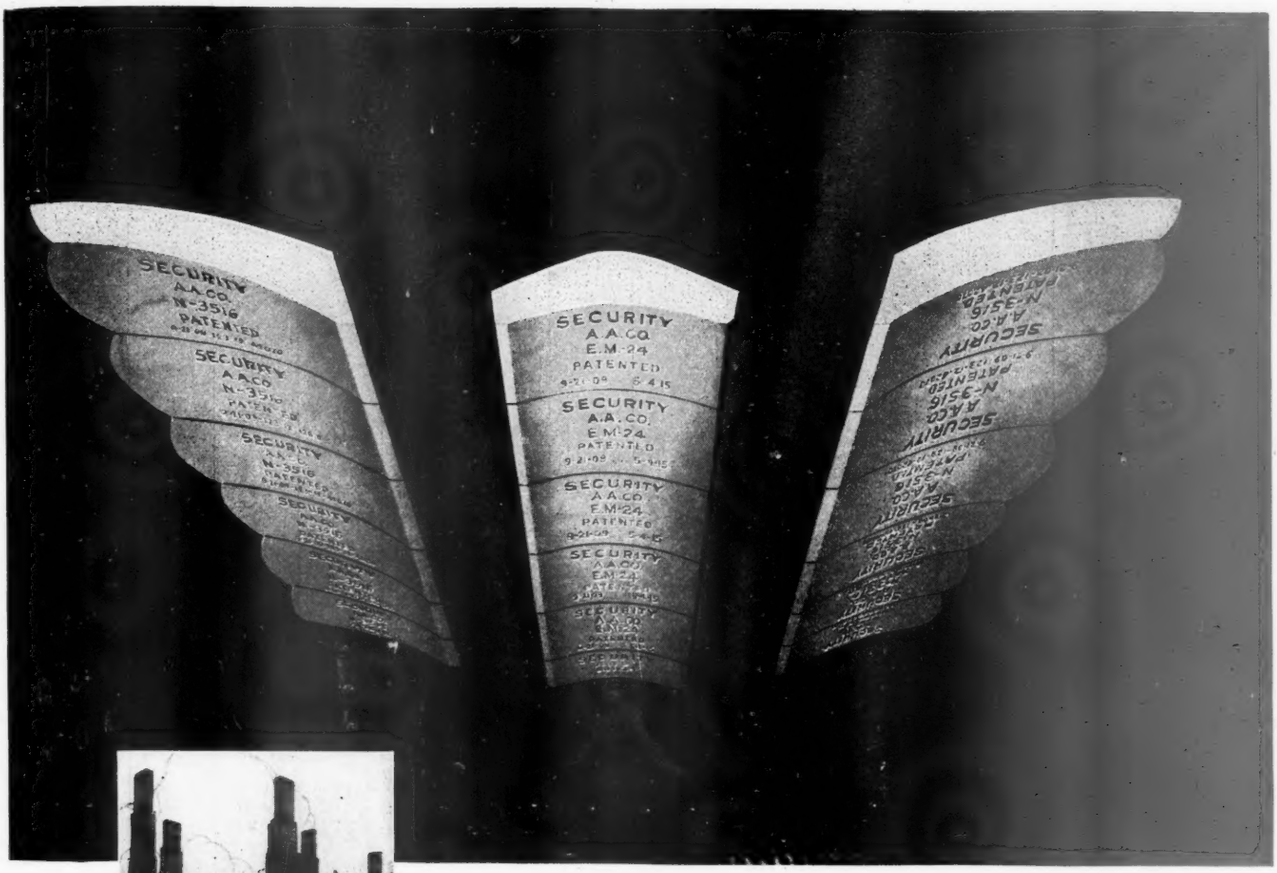

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YOU don't buy a pile of Arch Brick, you buy the service of a locomotive Arch —an important element of the locomotive.

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To this end, American Arch Company service starts with the design of the Arch when the locomotives are being built. It includes getting the Arches off to a proper start as the new power is delivered. It follows thru with a helpful readiness to deal with any combustion problem that is giving concern.

Finally, the engineers of the American Arch Company are continually experimenting to improve the Arch and the brick from which it is made.

Their experience in locomotive combustion has an important effect upon the service you get from Arch Brick.

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HARBISON-WALKER REFRACTORIES CO.
Refractory Specialists

AMERICAN ARCH CO.
INCORPORATED
Locomotive Combustion Specialists

Revenues and Expenses of Railways

MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1932—CONTINUED

Name of road		Av. mileage operated during period.	Operating revenues: Freight.	Passenger.	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures.	Maintenance of Equipment.	Traffic.	Transportation.	General.	Total.	Operating ratio.	Net from railway operation.	Operating income (or loss).	Net ry. operating income.	Net ry. operating income, 1931.
Chicago & Illinois Midland	March	131	$361,820	$1,694	$371,584	$16,545	$47,565	$20,914	$77,241	$16,448	$178,473	48.0	$193,111	$184,376	$177,958	$38,966
	3 mos.	131	807,180	5,311	833,736	48,401	141,912	58,892	204,194	51,022	503,469	60.4	330,267	304,148	301,003	67,843
Chicago & North Western	March	8,442	4,788,697	894,246	6,457,177	614,221	1,346,346	158,001	2,850,403	299,629	5,306,627	82.2	1,150,550	468,480	227,338	831,137
	3 mos.	8,442	13,586,950	2,699,045	18,446,399	1,651,288	3,874,055	480,601	8,498,512	905,840	15,525,116	84.2	2,921,283	868,628	135,242	1,721,700
Chicago, Burlington & Quincy	March	9,266	6,016,271	618,580	7,392,290	524,518	1,101,262	234,016	2,645,075	297,072	4,846,260	65.6	2,546,030	1,736,441	1,476,196	2,047,495
	3 mos.	9,278	16,975,887	1,997,392	21,262,322	1,652,382	3,678,210	656,263	8,058,408	923,311	15,114,832	71.1	6,147,490	3,899,103	3,107,938	5,973,799
Chicago Great Western	March	1,495	1,281,016	70,185	1,443,430	112,810	212,743	54,753	555,031	57,807	996,128	69.0	447,302	373,493	184,461	265,142
	3 mos.	1,495	3,519,508	220,742	4,009,683	373,518	565,586	191,258	1,656,972	174,268	2,969,141	74.1	1,040,542	818,611	232,549	671,807
Chicago, Indianapolis & Louisville	March	644	609,441	61,488	757,124	72,332	158,642	29,133	326,376	28,161	622,192	82.2	134,932	75,453	—26,873	59,590
	3 mos.	644	1,780,365	186,441	2,214,658	202,389	453,776	83,493	972,816	85,339	1,820,758	82.2	393,900	205,679	—97,372	70,658
Chicago, Mil., St. Paul & Pacific	March	11,274	6,123,517	518,194	7,403,548	692,276	1,645,621	222,357	3,025,965	298,386	5,914,400	79.9	1,489,148	755,024	309,761	788,213
	3 mos.	11,274	17,446,515	1,603,249	21,202,261	1,942,743	4,791,504	705,215	9,186,067	877,764	17,615,988	83.1	3,586,273	1,382,602	7,176	1,705,912
Chicago River & Indiana	March	20	.....	.....	382,142	20,000	30,000	1,285	132,926	15,114	199,325	52.2	182,817	144,439	205,226	246,284
	3 mos.	20	.....	.....	1,161,103	54,000	86,000	4,870	406,480	41,049	592,399	51.0	568,704	450,259	636,118	714,198
Chicago, Rock Island & Pacific	March	7,620	4,649,794	636,855	5,958,991	463,139	1,140,928	195,619	2,471,556	292,822	4,632,758	77.7	1,326,233	823,300	506,018	972,487
	3 mos.	7,620	13,802,652	1,922,264	17,584,173	1,521,019	3,605,733	605,615	7,522,531	902,854	14,394,887	81.9	3,189,286	1,678,113	647,210	2,593,925
Chicago, Rock Island & Gulf	March	721	329,314	26,579	363,634	29,438	36,476	17,144	118,574	19,194	223,420	61.4	140,214	117,113	70,651	120,832
	3 mos.	721	1,020,212	91,144	1,089,612	88,608	109,706	53,635	360,904	58,817	679,443	62.4	410,169	340,932	208,913	354,725
Chic., St. Paul, Minn. & Omaha	March	1,736	983,319	160,791	1,255,461	148,761	248,091	33,820	607,952	66,378	1,113,431	88.7	142,030	54,476	—22,870	41,770
	3 mos.	1,736	2,841,425	470,816	3,633,537	463,579	701,987	100,449	1,850,012	194,997	3 335,743	91.8	297,794	34,368	—183,154	—71,088
Clinchfield	March	309	395,885	2,594	404,029	51,937	90,702	17,325	74,554	14,503	249,021	61.6	155,008	90,008	106,042	183,366
	3 mos.	309	1,125,414	8,115	1,150,873	136,341	286,320	51,898	234,642	43,926	753,127	65.4	397,746	202,520	239,302	478,073
Colorado & Southern	March	1,037	393,662	25,911	472,462	62,415	118,038	13,160	183,397	33,387	406,907	86.1	65,555	—4,038	—19,590	9,500
	3 mos.	1,037	1,212,490	86,205	1,457,170	172,347	358,757	40,721	566,453	103,701	1,235,808	84.8	221,362	14,350	—23,283	157,882
Ft. Worth & Denver City	March	694	356,659	37,164	459,142	29.523	84,346	15,753	147,143	34,715	293,512	63.9	165,630	132,893	107,046	109,599
	3 mos.	694	1,124,908	123,253	1,467,646	126,453	251,589	50,637	475,424	103,761	960,535	65.4	507,111	409,689	333,982	293,939
Wichita Valley	March		Class II Road.	Does not file monthly.												
	3 mos.		Class II Road.	Does not file monthly.												
Columbus & Greenville	March	167	65,119	6,306	75,478	16,543	12,874	3,706	29,333	9,778	72,234	95.7	3,244	1,919	3,670	8,820
	3 mos.	167	181,899	20,267	215,475	49,776	37,668	10,306	88,676	36,435	222,853	103.4	—7,378	—14,707	—11,136	22,686
Conemaugh & Black Lick	March	20	15,760	.....	36,849	Cr. 564	11,278	449	25,307	3,614	40,084	108.8	—3,235	—3,735	—2,387	—16,067
	3 mos.	20	49,912	.....	115,431	11,025	31,919	1,346	77,133	11,102	132,525	114.8	—17,094	—18,594	—14,805	—34,747
Delaware & Hudson	March	854	1,892,217	120,602	2,165,839	323,340	558,632	46,677	914,955	144,704	1,993,449	92.0	172,390	84,431	81,734	88,337
	3 mos.	854	5,144,123	368,915	5,934,941	949,161	1,633,267	154,419	2,606,842	443,983	5,790,430	97.6	144,511	—124,278	—125,381	456,373
Delaware, Lackawanna & Western	March	998	3,203,735	674,040	4,462,665	404,675	798,581	117,912	1,848,261	160,245	3,360,826	75.3	1,101,839	656,790	652,572	649,029
	3 mos.	998	8,528,086	2,010,207	12,289,911	1,049,150	2,255,184	364,086	5,413,268	475,329	9,649,044	78.5	2,640,867	1,370,328	1,383,184	1,705,482
Denver & Rio Grande Western	March	2,556	1,103,946	77,292	1,277,596	140,769	362,461	47,410	144,501	82,238	1,084,204	84.9	193,392	28,226	60,069	364,431
	3 mos.	2,556	3,552,349	244,858	4,070,369	474,573	1,090,707	145,056	1,483,708	250,727	3,463,596	85.1	606,773	111,353	185,261	1,040,938
Denver & Salt Lake	March	232	129,936	8,094	149,194	19,126	28,899	2,214	26,766	10,490	87,149	58.4	62,045	44,964	50,346	30,424
	3 mos.	232	506,015	22,469	562,581	58,484	90,058	5,755	93,488	31,552	278,991	49.6	283,590	232,501	249,104	133,470
Detroit & Mackinac	March	242	43,302	3,041	52,896	7,395	10,764	1,565	24,347	4,149	48,218	91.2	4,678	—2,553	—3,340	3,539
	3 mos.	242	121,351	10,100	148,840	21,631	30,195	4,408	71,370	11,912	139,511	93.7	9,329	—12,497	—14,490	—356
Detroit & Toledo Shore Line	March	50	246,750	.....	248,817	24,728	26,903	7,311	60,296	7,012	125,674	50.5	123,143	98,198	49,467	63,322
	3 mos.	50	766,890	.....	773,135	61,792	75,190	22,222	180,835	21,297	360,746	46.7	412,389	334,167	189,310	194,808
Detroit Terminal	March	19	.....	.....	74,820	7,429	8,626	.....	37,174	3,425	56,654	75.9	18,166	5,744	—1,744	1,271
	3 mos.	19	.....	.....	215,780	21,201	25,534	.....	107,147	9,756	163,638	75.8	52,142	14,766	—7,473	10,085
Detroit, Toledo & Ironton	March	487	395,158	529	406,218	44,976	71,322	12,802	138,429	24,895	292,329	72.0	113,889	67,608	53,958	222,278
	3 mos.	487	1,114,838	1,801	1,149,379	117,994	214,387	35,565	412,733	72,326	852,910	74.2	296,469	156,557	114,910	536,632
Duluth, Missabe & Northern	March	563	62,565	1,708	81,910	91,152	178,808	3,171	130,362	39,132	442,621	540.4	—360,711	—369,529	—369,059	—669,021
	3 mos.	563	187,342	5,122	243,338	264,262	555,465	9,957	403,145	119,952	1,352,740	555.9	—1,109,402	—1,135,672	—1,138,120	—1,883,920
Duluth, Winnipeg & Pacific	March	178	74,727	2,330	81,022	16,985	19,789	3,185	39,951	6,730	87,076	107.5	—6,054	—10,247	6,460	—21,374
	3 mos.	178	244,182	8,895	263,085	45,438	62,734	9,889	127,758	18,536	265,646	101.0	—2,561	—15,877	39,328	—30,044
Elgin, Joliet & Eastern	March	447	866,030	1	930,452	100,938	179,242	14,286	375,746	56,998	727,144	78.1	203,308	87,764	35,914	133,153
	3 mos.	447	2,343,316	20	2,530,928	306,553	529,473	42,515	1,110,035	172,068	2,160,477	85.4	370,451	23,807	—112,856	255,089

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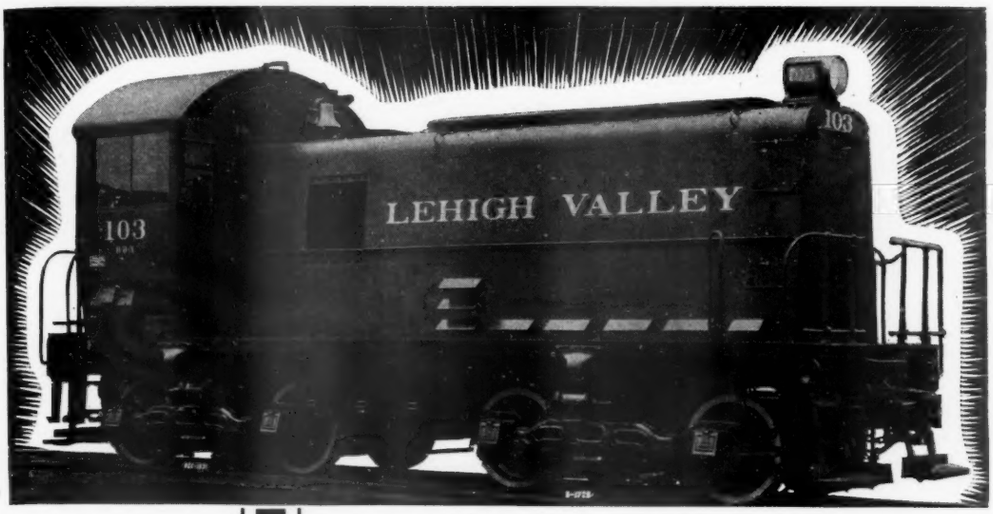

300 H. P.
Total Weight
131,000 lb.
Tractive Power, Starting,
39,300 lb.

ALCO DIESEL LOCOMOTIVES

THE Alco Diesel Locomotive is much more than just another Oil-Electric.

Designed and built by an organization which has been cooperating with railway officials on locomotive design, almost since railroads were new, it naturally followed that the fullest consideration was given to the railroad man's operating and maintenance problems.

Therefore, when considering this new class of motive power, do not overlook ease of operation and maintenance.

These are important and attractive features of the Alco Diesel Locomotive.

American Locomotive Company
30 Church Street New York N.Y.

600 H. P.
Total Weight
200,000 lb.
Tractive Power, Starting,
60,000 lb.

Elgin, Joliet & Eastern.....March 447 866,030 1 930,452 100,938 179,242 14,286 313,749 172,068 2,160,477 85.4 370,451 23,807 —112,856 255,089
3 mos. 447 2,343,316 20 2,530,928 306,553 529,473 42,515 1,110,035

Revenues and Expenses of Railways

MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1932—CONTINUED

Name of road		Av. mileage operated during period.	Operating revenues: Freight.	Passenger.	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures.	Maintenance of Equipment.	Traffic.	Transportation.	General.	Total.	Operating ratio.	Net from railway operation.	Operating income (or loss).	Net ry. operating income.	Net ry. operating income, 1931.
Erie Railroad	March	2,046	$4,773,804	$515,829	$5,805,534	$556,629	$1,176,956	$145,840	$2,188,804	$264,144	$4,359,213	75.1	$1,446,321	$1,040,531	$936,334	$1,296,853
	3 mos.	2,046	13,484,152	1,538,791	16,460,750	1,590,626	3,548,568	449,166	6,461,240	790,960	12,904,918	78.4	3,555,832	2,339,163	2,018,677	3,195,604
Chicago & Erie	March	269	718,411	26,211	803,210	92,128	118,372	24,710	226,528	33,644	495,373	61.7	307,837	251,141	62,978	136,988
	3 mos.	269	2,020,683	77,052	2,246,935	253,780	338,493	76,100	678,721	105,714	1,432,718	64.7	794,217	623,772	47,116	188,559
New Jersey & New York	March	45	17,794	73,052	93,722	8,135	24,901	1,424	50,594	3,534	88,589	94.5	5,133	82	—18,829	2,865
	3 mos.	45	52,167	221,046	281,361	24,653	75,165	4,578	154,916	11,134	270,447	96.1	10,914	—4,924	—65,694	—38,875
N. Y., Susquehanna & Western	March	131	244,386	29,973	294,657	39,267	51,317	4,591	122,979	11,455	229,607	77.9	65,050	32,899	15,216	80,884
	3 mos.	131	707,051	90,746	867,833	99,761	146,908	14,373	371,456	36,035	668,529	77.0	199,304	102,234	36,875	231,400
Florida East Coast	March	864	557,841	295,969	996,639	114,288	141,309	25,533	217,853	40,295	545,921	54.8	450,718	350,635	296,067	325,522
	3 mos.	864	1,690,555	829,190	2,886,726	330,867	402,084	76,694	670,182	128,153	1,646,433	57.0	1,240,293	939,991	771,088	906,486
Fort Smith & Western	March	249	44,458	1,257	49,524	12,399	11,613	4,538	23,511	4,591	56,615	114.3	—7,091	—10,091	—14,031	—7,105
	3 mos.	249	154,601	4,715	173,315	38,007	34,714	13,810	74,244	14,000	174,701	100.8	—1,386	—10,442	—18,870	—12,428
Galveston Wharf	March	11	.....	.....	156,168	50,831	5,785	3,378	25,793	6,168	109,584	70.2	46,584	23,580	23,546	3,968
	3 mos.	11	.....	.....	506,125	142,167	15,361	10,374	69,958	20,698	306,969	60.7	199,156	130,115	130,080	52,427
Georgia R. R.	March	329	216,667	17,245	256,562	30,533	47,948	20,024	125,605	18,218	242,666	94.6	13,896	6,194	18,509	79,901
	3 mos.	329	605,896	53,984	723,845	94,795	156,282	58,891	375,047	56,875	742,839	102.6	—18,994	—42,191	—8,720	119,403
Georgia & Florida	March	463	79,014	1,343	85,354	23,141	15,910	8,984	35,340	6,590	90,136	105.6	—4,782	—11,482	—13,938	18,969
	3 mos.	463	203,684	4,139	223,372	61,631	48,595	26,240	105,310	20,177	262,509	117.5	—39,137	—59,250	—68,051	—31,277
Grand Trunk Western	March	1,021	1,241,292	68,226	1,403,316	176,317	275,265	47,897	658,556	82,952	1,250,103	89.1	153,213	27,841	—77,067	16,320
	3 mos.	1,021	3,495,150	224,163	4,034,228	489,576	852,899	148,785	1,997,724	270,623	3,787,918	93.9	246,310	—108,171	—413,923	—262,011
Can. Nat'l Lines in New Eng.	March	172	65,188	8,503	91,048	19,485	26,104	3,730	72,890	9,105	135,217	148.5	—44,169	—58,299	—99,726	—107,206
	3 mos.	172	226,096	24,516	293,103	63,419	64,557	11,641	207,324	29,130	387,354	132.2	—94,251	—136,641	—270,284	—269,378
Great Northern	March	8,338	3,607,603	328,385	4,448,867	470,183	1,070,869	180,077	1,791,087	193,456	3,713,865	83.5	735,002	157,394	—48,975	574,260
	3 mos.	8,338	9,570,690	1,043,239	12,039,843	1,321,188	3,151,763	547,801	5,523,843	598,942	11,231,667	93.3	808,176	—793,644	—1,324,933	836,736
Green Bay & Western	March	234	99,125	1,697	104,114	18,086	18,041	4,646	45,944	2,641	89,304	85.7	14,810	7,810	6,172	2,657
	3 mos.	234	274,745	4,372	285,594	55,825	49,312	10,807	138,817	9,096	263,442	92.2	22,152	1,149	—2,123	8,610
Gulf & Ship Island	March	307	86,358	12,502	112,297	10,754	15,299	3,087	54,661	4,786	89,612	79.8	22,685	5,585	—5,578	—58,279
	3 mos.	307	218,450	34,897	289,839	33,659	42,946	11,882	160,234	20,852	271,984	93.8	17,855	—33,469	—64,266	—171,739
Gulf, Mobile & Northern	March	733	249,175	9,226	277,690	42,937	59,372	23,072	105,618	19,380	250,379	90.16	27,311	4,302	—16,213	—12,006
	3 mos.	733	699,365	35,142	786,717	133,355	172,636	71,288	320,416	57,985	755,680	96.05	31,037	—38,111	—92,369	—13,233
Illinois Central	March	5,018	5,603,536	820,248	7,025,879	415,843	1,303,163	201,062	2,707,930	322,374	4,997,664	71.1	2,028,215	1,465,265	1,365,460	681,226
	3 mos.	5,018	16,303,690	2,472,746	20,418,920	1,338,770	4,074,428	634,778	8,043,521	965,133	15,196,328	74.4	5,222,592	3,343,163	3,303,045	1,566,946
Yazoo & Mississippi Valley	March	1,681	938,470	79,277	1,099,680	68,282	133,689	34,025	479,477	54,928	773,325	70.3	326,355	190,055	105,253	—97,715
	3 mos.	1,681	2,583,654	268,476	3,085,683	251,441	464,705	100,368	1,416,475	166,216	2,409,603	78.1	676,080	266,401	6,525	—470,093
Illinois Central System	March	6,700	6,542,006	899,525	8,125,559	484,125	1,436,852	235,087	3,187,407	377,302	5,770,989	71.0	2,354,570	1,655,320	1,470,713	583,511
	3 mos.	6,700	18,887,344	2,741,222	23,504,603	1,590,211	4,539,133	735,146	9,459,996	1,131,349	17,605,931	74.9	5,898,672	3,809,564	3,309,570	1,096,853
Illinois Terminal	March	543	353,944	63,733	437,973	50,923	52,127	17,191	160,330	27,260	307,686	70.25	130,287	99,687	70,561	143,325
	3 mos.	543	1,013,760	189,486	1,265,405	145,736	164,567	50,211	482,695	81,889	923,557	72.99	341,848	250,048	165,508	315,448
Kansas City Southern	March	783	613,975	26,882	740,225	73,984	141,171	45,391	252,718	87,020	603,321	81.5	136,904	48,666	28,189	260,816
	3 mos.	783	1,961,616	80,813	2,337,360	213,916	387,368	139,165	781,442	204,887	1,734,421	74.2	602,939	338,175	279,017	801,355
Texarkana & Ft. Smith	March	99	92,870	1,676	105,298	6,873	4,460	6,795	29,989	8,949	58,591	55.6	46,707	37,658	18,536	32,357
	3 mos.	99	242,759	5,097	277,853	41,672	24,645	19,094	94,350	25,868	209,888	75.5	67,965	40,841	—13,990	46,259
Kansas, Oklahoma & Gulf	March	326	158,003	390	161,195	16,489	14,818	10,500	38,890	8,891	89,588	55.6	71,607	54,064	39,878	54,429
	3 mos.	326	464,276	1,528	474,645	42,741	47,039	31,301	119,577	26,437	267,079	56.3	207,566	150,757	107,689	158,836
Lake Superior & Ishpeming	March	160	25,963	127	27,876	15,023	15,003	523	16,992	5,218	52,759	189.3	—24,883	—39,880	—40,989	—60,124
	3 mos.	160	76,281	345	81,836	44,458	47,036	1,696	52,494	18,298	163,982	200.4	—82,146	—127,137	—130,702	—170,371
Lake Terminal	March	12	.....	.....	19,097	1,903	3,597	.....	14,164	2,021	21,685	113.6	—2,588	—6,167	—6,353	—5,595
	3 mos.	12	.....	.....	59,841	5,649	11,498	.....	43,538	6,246	66,931	111.8	—7,090	—17,829	—18,896	—29,253
Lehigh & Hudson River	March	96	141,551	641	151,418	15,468	23,835	3,442	55,288	9,161	107,194	70.8	44,224	30,810	16,445	4,625
	3 mos.	96	388,425	1,503	417,673	67,647	71,325	9,842	154,849	26,309	329,972	79.0	87,701	52,247	9,860	38,447
Lehigh & New England	March	216	317,319	532	321,058	32,482	61,207	5,459	105,061	19,384	223,593	69.6	97,465	82,229	96,015	41,438
	3 mos.	216	840,085	1,582	850,915	86,521	186,795	15,156	303,112	57,789	649,333	76.3	201,582	167,610	204,277	203,965
Lehigh Valley	March	1,361	3,038,858	286,575	3,645,349	226,620	808,670	120,284	1,576,232	122,575	2,871,462	78.8	773,887	506,753	402,077	306,026
	3 mos.	1,361	8,494,208	813,828	10,212,342	648,098	2,384,492	354,966	4,637,863	386,043	8,463,484	82.9	1,748,858	947,341	642,556	1,229,025
Louisiana & Arkansas	March	608	325,938	8,597	359,953	65,334	55,493	22,919	97,737	21,689	262,177	72.8	97,776	54,482	51,612	63,738
	3 mos.	608	975,572	25,721	1,087,524	175,416	171,129	66,953	301,413	67,209	779,658	71.7	307,866	178,918	165,117	182,767

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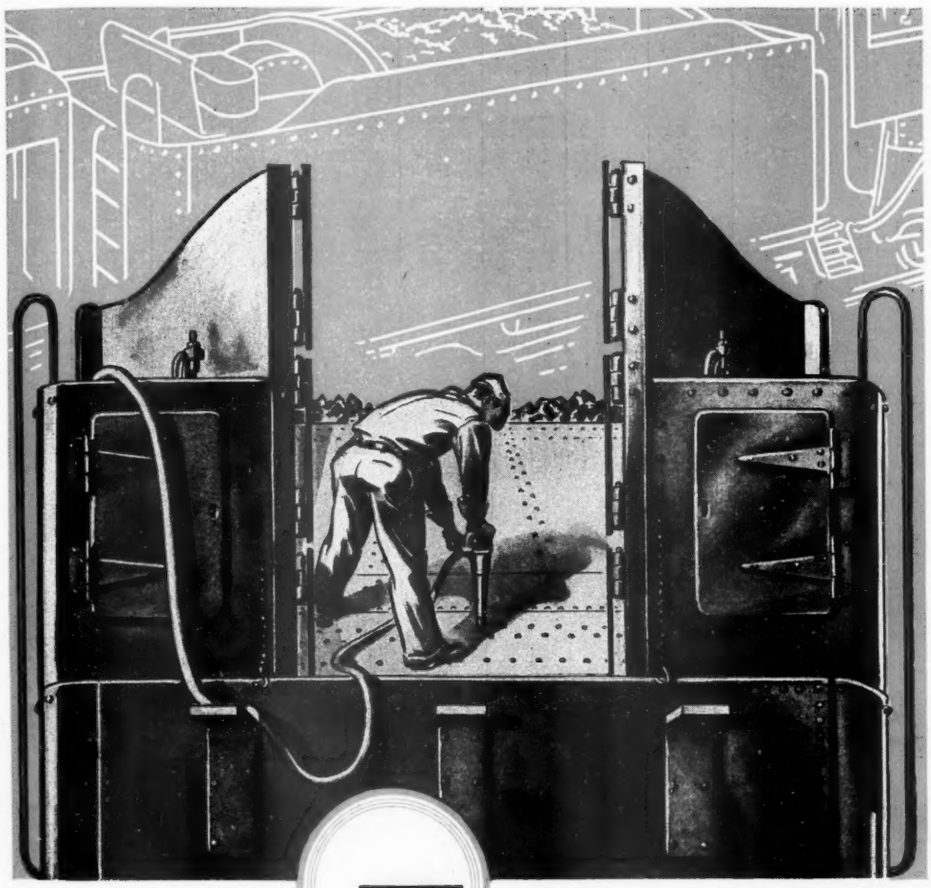

TENDER COAL SPACES NEED TONCAN IRON

Water seeping down thru coal in a tender dissolves out the sulphur, which in the form of sulphuric acid, then attacks the bottom sheets. This action is continuous and soon corrodes the metal. « Here is an ideal place for Toncan Iron. « Toncan Iron has been proved by hundreds of tests to withstand corrosion far better than any other commercial plate material. « In Toncan Iron the natural corrosion resistance of refined iron has been fortified by alloying with copper and molybdenum. The results surpass anything yet attained in plate metal. « Try Toncan Iron for tenders and every place where corrosion and rust are taking their toll.

Toncan Iron Boiler Tubes, Pipe, Plates, Culverts, Rivets, Staybolts, Tender Plates and Firebox Sheets • Sheets and Strip for special railroad purposes • Agathon Alloy Steels for Locomotive Parts Agathon Engine Bolt Steel • Nitralloy Agathon Iron for pins and bushings Agathon Staybolt Iron • Climax Steel Staybolts • Upson Bolts and Nuts Track Material, Maney Guard Rail Assemblies • Enduro Stainless Steel for dining car equipment, for refrigeration cars and for firebox sheets • Agathon Nickel Forging Steel (20-27 Carbon)

TONCAN COPPER Mo-lyb-den-um IRON

The Birdsboro Steel Foundry & Machine Company of Birdsboro, Penna., has manufactured and is prepared to supply under license, Toncan Copper Molybdenum Iron castings for locomotives.

REPUBLIC STEEL CORPORATION
HEADQUARTERS: YOUNGSTOWN, OHIO

Revenues and Expenses of Railways

MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1932—CONTINUED

Name of road		Av. mileage operated during period.	Operating revenues: Freight.	Passenger.	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures.	Maintenance of Equipment.	Traffic.	Transportation.	General.	Total.	Operating ratio.	Net from railway operation.	Operating income (or loss).	Net ry. operating income.	Net ry. operating income, 1931.
Louisiana, Arkansas & Texas	March	202	$43,942	$579	$50,161	$14,020	$8,350	$4,009	$17,214	$4,856	$48,448	96.6	$1,713	—$1,580	—$5,045	—$7,787
	3 mos.	202	133,500	1,426	147,625	39,924	21,503	9,888	56,981	12,541	140,683	95.3	6,942	—2,157	—17,006	—18,568
Louisville & Nashville	March	5,263	5,053,398	475,597	6,013,779	947,552	1,273,475	179,321	2,190,295	307,890	4,928,737	82.0	1,085,042	632,436	708,048	1,076,772
	3 mos.	5,263	14,320,033	1,489,664	17,187,193	2,780,539	3,802,297	583,668	6,629,920	922,979	14,810,722	86.2	2,376,471	1,020,400	1,147,242	2,239,381
Maine Central	March	1,121	847,417	106,481	1,057,085	148,166	164,107	16,046	408,398	50,681	787,356	74.5	269,729	211,474	176,302	171,404
	3 mos.	1,121	2,339,907	328,799	2,957,821	455,262	505,064	49,747	1,259,596	136,507	2,406,029	81.3	551,792	377,225	260,575	450,544
Midland Valley	March	363	129,105	796	133,389	19,865	14,098	4,406	33,044	8,322	79,477	59.6	53,912	41,845	35,687	24,496
	3 mos.	363	387,506	2,521	402,522	50,801	50,051	13,239	108,585	24,662	247,075	61.4	155,447	119,556	94,526	95,537
Minneapolis & St. Louis	March	1,627	590,870	28,575	662,533	77,376	133,953	31,017	346,342	42,529	631,584	95.3	30,949	—13,779	—32,717	83,266
	3 mos.	1,627	1,716,564	82,357	1,935,372	190,996	418,311	98,420	1,031,268	123,196	1,861,814	96.2	73,558	—57,708	—125,642	—58,208
Minn., St. Paul & S. S. Marie	March	4,349	1,527,075	109,926	1,797,101	260,090	469,802	69,233	868,378	107,538	1,775,931	98.8	21,170	—186,581	—306,226	—57,249
	3 mos.	4,349	4,135,867	344,716	4,940,150	718,258	1,358,120	198,790	2,601,245	326,300	5,213,701	105.5	—273,551	—862,246	—1,219,325	—351,902
Duluth, South Shore & Atlantic	March	560	118,294	15,647	148,933	23,899	34,227	6,048	78,658	8,539	152,619	102.5	—3,686	—29,986	—33,633	14,636
	3 mos.	560	325,170	49,810	418,938	77,161	105,727	20,331	236,424	27,340	471,258	112.5	—52,320	—138,620	—146,724	3,424
Spokane International	March	163	34,184	2,603	41,000	17,436	4,542	2,825	24,070	5,250	54,692	133.4	—13,692	—18,731	—22,183	6,159
	3 mos.	163	111,573	8,664	132,850	49,446	15,164	8,993	71,622	15,016	162,008	122.0	—29,158	—44,275	—54,276	—2,387
Mississippi Central	March	150	56,023	1,265	59,444	11,061	13,069	7,894	19,895	5,810	57,729	97.1	1,715	—2,006	—6,119	10,443
	3 mos.	150	151,669	3,926	162,034	32,567	46,681	24,963	60,605	17,946	182,762	112.8	—20,728	—31,943	—44,011	14,457
Missouri & North Arkansas	March	364	71,546	1,393	78,749	16,725	13,038	8,830	32,107	8,728	79,337	100.7	—588	—3,071	—11,300	12,210
	3 mos.	364	222,426	3,925	242,301	47,457	38,000	25,552	102,277	24,857	237,331	97.9	4,970	—2,529	—29,698	—28,263
Missouri-Illinois	March	202	83,311	510	85,654	11,417	12,923	5,112	25,485	6,118	61,053	71.3	24,601	19,256	8,264	10,631
	3 mos.	202	222,873	1,604	229,612	34,733	40,247	11,872	76,422	17,861	181,124	78.9	48,488	32,404	6,167	13,543
Missouri-Kansas-Texas Lines	March	3,188	1,839,426	184,390	2,281,809	283,380	437,177	116,157	815,825	155,470	1,821,570	79.8	460,239	245,607	75,707	349,469
	3 mos.	3,188	5,439,694	599,737	6,754,371	805,505	1,107,389	356,499	2,488,728	429,197	5,233,872	77.5	1,520,499	897,864	433,959	776,482
Missouri Pacific	March	7,436	5,374,620	421,464	6,360,600	667,105	1,021,980	252,904	2,464,980	302,107	4,722,967	74.3	1,637,633	1,266,261	939,127	1,358,800
	3 mos.	7,436	15,255,910	1,326,742	18,238,008	1,872,020	3,288,157	751,761	7,414,908	910,339	14,340,875	78.5	3,917,133	2,695,745	1,778,010	4,160,299
Gulf Coast Lines	March	1,030	812,318	48,325	910,525	98,218	139,795	40,932	231,273	49,668	561,158	61.63	349,367	302,036	195,239	208,300
	3 mos.	1,030	2,411,150	141,781	2,695,160	308,053	430,960	119,077	703,445	145,210	1,709,344	63.42	985,816	840,438	538,525	480,850
International Great Northern	March	1,159	734,259	61,935	889,905	122,267	165,267	33,078	388,655	56,712	775,904	87.19	114,001	70,183	—19,378	356,882
	3 mos.	1,159	2,173,163	211,583	2,671,705	406,355	527,821	98,701	1,185,950	166,460	2,413,207	90.32	258,498	128,364	—138,761	437,678
San Antonio, Uvalde & Gulf	March	316	91,097	6,297	104,347	20,395	15,522	5,039	29,263	5,869	75,290	72.2	29,057	24,279	—3,529	29,021
	3 mos.	316	294,741	19,147	333,000	64,325	41,506	15,233	81,623	16,892	218,427	65.6	114,573	100,699	17,423	72,368
Mobile & Ohio	March	1,239	664,201	22,562	734,297	104,221	137,646	43,570	313,014	39,496	637,418	86.8	96,879	37,462	—23,572	49,718
	3 mos.	1,182	1,803,514	73,577	2,000,136	302,067	391,993	136,039	913,068	125,129	1,865,301	93.3	134,835	—44,311	—207,607	34,531
Monongahela	March	177	339,400	1,325	342,201	35,000	35,000	1,226	78,206	8,370	157,802	46.1	184,399	170,778	97,440	105,521
	3 mos.	177	966,530	3,960	976,143	115,000	115,000	3,788	231,486	25,769	491,043	50.3	485,100	444,638	226,503	285,586
Monongahela Connecting	March	6	.....	.....	49,747	8,672	22,026	50	28,724	2,633	62,105	124.8	—12,358	—17,625	—17,752	774
	3 mos.	6	.....	.....	140,461	23,895	69,777	550	93,357	7,865	195,444	139.1	—54,983	—70,730	—71,092	—14,297
Montour	March	57	151,619	.....	151,758	10,777	37,135	1,513	38,065	6,805	94,295	62.1	57,463	55,419	67,981	61,823
	3 mos.	57	392,863	.....	393,700	32,010	110,238	4,386	100,730	20,922	268,286	68.1	125,414	119,283	167,341	204,575
Nashville, Chatt. & St. Louis	March	1,203	888,906	86,870	1,092,042	167,889	260,495	59,309	433,102	57,774	983,560	90.1	108,482	64,277	60,298	168,413
	3 mos.	1,203	2,484,786	268,540	3,104,052	474,032	703,995	191,635	1,293,373	182,170	2,861,773	92.2	242,279	113,407	90,223	257,911
Nevada Northern	March	165	17,715	2,525	24,928	9,552	4,690	739	9,863	3,704	28,548	114.5	—3,620	—11,514	—7,741	7,954
	3 mos.	165	64,603	8,233	87,587	28,719	15,003	2,390	31,526	10,933	88,571	101.1	—984	—25,478	—15,877	10,057
Newburgh & South Shore	March	6	.....	.....	60,742	6,282	17,740	.....	31,243	5,766	61,031	100.5	—289	—11,778	—7,313	—35,163
	3 mos.	6	.....	.....	172,623	19,300	56,873	.....	90,862	17,744	184,779	107.0	—12,156	—46,624	—35,881	—79,127
New Orleans Great Northern	March	264	140,806	6,642	152,113	15,631	18,652	12,895	47,118	8,331	102,627	67.5	49,486	38,793	14,801	42,707
	3 mos.	264	401,999	23,768	440,895	43,031	54,831	37,179	149,842	24,670	309,553	70.2	131,342	99,882	27,779	72,881
New Orleans Terminal	March	20	1,157	.....	116,800	9,332	7,991	.....	34,570	1,247	53,140	45.5	63,660	52,092	37,050	—11,847
	3 mos.	20	3,186	.....	333,554	38,036	22,786	.....	96,413	3,938	161,173	48.3	172,381	137,676	94,606	—2,146
New York Central	March	11,517	18,922,533	5,794,100	28,424,442	2,797,809	5,819,679	604,358	10,403,322	1,188,125	21,195,424	74.6	7,229,018	4,525,270	3,269,700	3,908,665
	3 mos.	11,473	53,365,148	17,500,534	81,333,553	8,115,503	16,265,993	1,877,336	31,168,138	3,571,559	62,215,393	76.5	19,118,160	10,959,310	7,156,162	7,337,299
Indiana Harbor Belt	March	118	.....	.....	702,227	68,000	67,000	3,950	279,442	22,494	456,747	65.0	245,480	201,725	146,928	179,533
	3 mos.	118	.....	.....	1,978,530	204,000	201,000	12,793	826,985	68,814	1,375,448	69.5	603,082	478,348	340,456	385,707
Pittsburgh & Lake Erie	March	235	1,057,152	69,556	1,160,989	101,407	388,665	29,868	454,196	65,444	1,039,340	89.5	121,649	31,247	157,170	365,114
	3 mos.	235	2,970,742	212,140	3,281,505	281,080	1,094,162	86,067	1,321,474	197,080	2,985,251	91.0	296,254	29,696	421,137	974,457

Continued on next left-hand page

Revenues and Expenses of Railways

MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1932—CONTINUED

Name of road		Av. mileage operated during period.	Operating revenues: Freight.	Passenger.	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures.	Maintenance of Equipment.	Traffic.	Transportation.	General.	Total.	Operating ratio.	Net from railway operation.	Operating income (or loss).	Net ry. operating income.	Net ry. operating income, 1931.
New York, Chicago & St. Louis	March	1,698	$2,615,179	$81,069	$2,801,071	$365,834	$478,445	$118,205	$1,048,743	$123,505	$2,120,189	75.7	$680,882	$477,573	$215,349	$609,791
	3 mos.	1,698	7,330,232	236,816	7,870,360	918,361	1,329,181	339,579	3,051,871	376,612	5,996,800	76.2	1,873,560	1,247,640	491,115	806,505
N. Y., New Haven & Hartford	March	2,082	4,070,135	2,258,830	7,212,382	781,171	1,073,949	80,876	2,515,772	269,059	4,863,344	67.4	2,349,038	1,848,801	1,339,453	1,631,023
	3 mos.	2,082	11,431,621	7,008,098	20,974,587	2,360,665	3,179,317	252,375	7,470,169	788,941	14,481,797	69.0	6,492,790	4,992,270	3,437,373	4,408,533
New York Connecting	March	20	206,985	.....	206,953	19,321	Cr. 11,757	.....	25,454	1,140	34,158	16.5	172,795	136,795	93,907	76,159
	3 mos.	20	583,745	.....	607,378	36,323	2,910	.....	92,032	3,171	134,436	22.1	472,942	364,942	249,284	209,986
New York, Ontario & Western	March	568	779,037	19,629	951,271	65,935	143,539	13,095	366,347	24,025	621,350	65.3	329,921	284,916	213,833	116,010
	3 mos.	568	2,147,220	58,264	2,602,502	212,789	428,444	41,223	1,036,675	78,085	1,816,799	69.8	785,703	650,650	448,555	280,313
Norfolk & Western	March	2,268	5,218,775	157,164	5,597,387	679,730	1,249,864	112,438	1,448,856	247,785	3,752,202	67.0	1,845,185	1,270,017	1,344,130	1,696,004
	3 mos.	2,268	14,801,250	459,815	15,873,772	1,886,031	3,695,315	346,806	4,383,840	777,301	11,152,228	70.3	4,721,544	2,845,207	3,091,568	4,762,312
Norfolk Southern	March	932	329,270	7,951	358,223	76,183	67,212	21,412	166,243	21,448	352,489	98.4	5,734	—37,816	—47,117	22,496
	3 mos.	932	899,917	24,820	985,582	211,648	189,815	63,718	492,424	63,368	1,020,953	103.6	—35,371	—165,507	—192,627	—18,440
Northern Pacific	March	6,735	2,988,855	300,756	3,693,124	450,022	1,084,979	169,501	1,612,057	277,248	3,643,213	98.6	49,911	—563,421	—299,086	461,700
	3 mos.	6,735	8,411,785	928,825	10,509,134	1,187,157	3,166,982	487,098	5,014,367	849,269	10,830,203	103.1	—321,069	—2,153,566	—1,374,242	387,848
Northwestern Pacific	March	441	130,637	89,671	246,400	55,123	55,141	3,776	149,748	17,523	281,267	114.2	—34,867	—65,695	—76,355	—109,855
	3 mos.	441	351,564	257,064	691,867	170,748	156,145	12,187	436,827	48,826	824,221	119.1	—132,354	—224,913	—253,342	—356,314
Oklahoma City-Ada-Atoka	March	132	34,266	507	36,971	8,659	2,869	975	12,288	2,166	26,957	72.9	10,014	5,527	—2,463	—1,753
	3 mos.	132	98,211	1,748	106,467	23,223	7,789	3,293	38,476	6,040	78,782	74.0	27,685	14,206	—9,597	—6,266
Pennsylvania Railroad	March	10,897	22,735,594	5,535,352	31,634,336	2,936,709	6,589,365	670,459	11,682,874	1,535,813	23,754,134	75.1	7,880,202	5,370,158	4,702,999	4,248,686
	3 mos.	10,897	63,633,573	17,364,247	90,602,943	8,125,645	19,254,609	2,022,772	35,381,048	4,628,464	70,603,802	77.9	19,999,141	13,757,465	11,235,834	10,326,817
Long Island	March	404	690,319	1,554,877	2,379,889	242,438	401,433	13,792	1,048,477	58,674	1,764,069	74.1	615,820	502,150	323,081	473,240
	3 mos.	404	1,855,665	4,709,609	6,937,004	730,578	1,155,712	41,666	3,208,447	177,027	5,312,086	76.6	1,624,918	1,304,630	781,582	1,220,893
Peoria & Pekin Union	March	17	8,898	.....	83,334	5,246	10,400	2,056	38,505	7,214	63,421	76.1	19,913	3,391	21,980	17,319
	3 mos.	17	24,018	—2	234,830	19,671	24,141	6,193	114,896	21,663	186,564	79.4	48,266	—667	55,775	100,595
Pere Marquette	March	2,266	1,874,029	76,661	2,077,154	257,661	428,072	61,122	822,860	105,346	1,681,669	81.0	395,485	239,430	120,957	244,313
	3 mos.	2,266	5,269,553	226,565	5,831,866	770,572	1,241,274	183,300	2,392,845	316,360	4,924,673	84.4	907,193	435,913	254,615	231,748
Pittsburg & Shawmut	March	102	67,404	840	68,809	9,659	21,787	1,960	18,594	4,878	56,878	82.7	11,931	10,854	11,424	10,150
	3 mos.	102	182,739	2,599	187,080	32,981	67,908	5,167	52,967	13,393	172,416	92.2	14,664	11,459	14,525	28,922
Pittsburgh & West Virginia	March	138	188,673	125	206,397	15,248	55,854	15,757	41,457	14,379	149,910	72.6	56,487	29,820	47,802	82,985
	3 mos.	138	540,693	372	591,744	53,684	176,303	46,474	125,740	44,038	467,440	79.0	124,304	44,334	89,625	204,466
Pittsburg, Shawmut & Northern	March	197	89,099	393	92,857	14,732	21,743	1,471	35,795	6,949	80,690	86.9	12,167	9,695	5,361	29,629
	3 mos.	197	254,566	918	264,622	45,493	60,607	4,785	103,445	20,875	237,205	89.6	27,417	19,987	8,027	67,912
Reading	March	1,460	4,185,493	330,946	4,920,620	461,127	1,095,018	81,566	2,019,829	187,592	3,866,997	78.6	1,053,623	942,974	895,085	585,130
	3 mos.	1,459	12,257,620	990,899	14,377,365	1,442,190	3,487,689	240,886	6,055,017	597,202	11,888,584	82.7	2,488,781	2,036,116	1,920,881	1,676,906
Atlantic City	March	163	81,741	42,094	133,406	27,362	17,228	2,773	119,810	3,574	170,877	128.1	—37,471	—77,431	—81,392	—126,997
	3 mos.	163	232,525	113,853	372,685	89,879	48,858	8,388	359,920	10,996	518,720	139.2	—146,035	—265,915	—278,209	—378,976
Richmond, Fredericksburg & Pot.	March	117	366,434	193,947	702,988	61,522	142,652	9,779	255,504	32,462	516,569	73.5	186,419	150,910	97,827	246,308
	3 mos.	117	1,078,366	570,257	2,052,782	176,954	418,396	27,749	781,271	100,898	1,548,482	75.4	504,300	396,888	219,341	553,127
Rutland	March	413	219,209	50,621	355,350	61,681	66,478	11,794	145,692	14,720	299,643	84.3	55,707	34,091	35,891	—2,143
	3 mos.	413	570,065	145,443	981,868	168,455	200,348	32,595	438,851	43,603	881,623	89.8	100,245	34,715	47,187	—20,348
St. Louis-San Francisco	March	5,266	2,946,706	269,908	3,536,641	463,868	750,118	102,875	1,288,390	183,154	2,800,828	79.2	735,813	379,944	333,939	878,129
	3 mos.	5,266	8,431,533	868,733	10,218,283	1,422,462	2,347,234	317,547	3,893,913	535,561	8,568,622	83.9	1,649,661	635,405	479,260	2,377,296
Ft. Worth & Rio Grande	March	233	28,857	1,542	36,634	18,048	12,035	2,646	24,656	3,441	60,803	166.0	—24,169	—28,781	—35,713	—42,965
	3 mos.	233	78,447	5,640	102,531	54,438	35,820	8,261	77,385	11,005	186,753	182.1	—84,222	—97,884	—118,903	—118,268
St. Louis, San Francisco & Texas	March	262	68,308	313	72,713	18,873	18,558	6,058	40,533	8,020	92,031	126.6	—19,318	—23,865	—52,437	—50,096
	3 mos.	262	219,613	2,681	234,906	63,642	59,654	17,575	134,645	23,432	298,918	127.3	—64,012	—77,562	—169,708	—117,493
St. Louis Southwestern Lines	March	1,913	980,726	17,533	1,073,924	157,831	186,050	80,110	389,964	78,892	900,093	83.8	173,831	113,637	17,963	105,646
	3 mos.	1,913	2,945,756	62,452	3,229,497	465,146	565,218	242,712	1,207,200	229,839	2,739,459	84.8	490,038	250,797	—40,838	42,259
San Diego & Arizona	March	155	38,756	7,609	49,938	11,079	10,330	2,253	17,239	5,190	46,694	93.5	3,244	—1,304	—711	9,626
	3 mos.	155	98,508	22,203	128,367	26,524	33,525	7,143	49,089	12,985	130,838	101.9	—2,471	—15,932	—14,460	23,269
Seaboard Air Line	March	4,449	2,551,520	286,044	3,158,147	482,112	587,023	157,711	1,122,788	156,154	2,538,344	80.4	619,803	358,064	245,906	628,258
	3 mos.	4,454	7,432,040	969,661	9,353,536	1,426,708	1,784,456	482,457	3,486,304	473,646	7,777,649	83.2	1,575,887	855,963	470,940	1,279,630
Southern Ry.	March	6,724	5,572,753	743,633	6,923,016	1,023,294	1,518,867	177,784	2,597,268	302,974	5,664,867	81.8	1,258,149	705,534	559,616	802,850
	3 mos.	6,724	15,828,860	2,215,809	19,734,928	2,954,008	4,481,637	530,495	7,735,418	887,536	16,728,847	84.8	3,006,081	1,336,467	865,933	1,565,580
Alabama Great Southern	March	315	310,808	40,590	387,593	74,553	119,415	11,327	144,332	18,747	371,859	95.9	15,734	—23,203	—22,022	44,314
	3 mos.	315	860,305	127,383	1,086,957	217,712	343,759	36,317	437,009	56,194	1,101,960	101.4	—15,003	—131,023	—126,328	32,936

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Revenues and Expenses of Railways

MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1932—CONTINUED

Name of road		Av. mileage operated during period.	Operating revenues: Freight.	Passenger.	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures.	Maintenance of Equipment.	Traffic.	Transportation.	General.	Total.	Operating ratio.	Net from railway operation.	Operating income (or loss).	Net ry. operating income.	Net ry. operating income, 1931.
Cinn., New Orleans & Tex. Pac.	March	337	$817,501	$73,101	$954,260	$145,155	$247,039	$25,695	$279,553	$45,277	$747,862	78.4	$206,398	$151,630	$160,051	$107,538
	3 mos.	337	2,357,631	237,051	2,775,376	438,861	754,767	78,398	839,426	140,766	2,269,819	81.8	505,557	341,245	367,559	347,228
Georgia Southern & Florida	March	397	143,090	31,577	193,433	36,970	49,406	2,155	64,980	1,902	158,314	81.8	35,119	17,985	24,502	29,073
	3 mos.	397	399,737	100,007	552,466	116,900	141,428	5,565	204,187	6,703	485,133	87.8	67,333	13,285	36,884	90,166
New Orleans & Northeastern	March	204	161,777	20,914	199,301	37,219	52,472	7,047	78,375	11,555	188,450	94.6	10,851	—20,142	—21,373	—34,281
	3 mos.	204	460,737	69,729	573,264	111,721	153,013	20,984	225,072	33,222	549,744	95.9	23,520	—69,505	—99,691	—133,658
Northern Alabama	March	99	43,456	730	45,876	12,812	1,630	1,194	15,642	2,395	33,673	73.4	12,203	7,111	—6,368	—12,125
	3 mos.	101	130,844	2,325	137,918	37,498	4,630	3,698	47,923	7,457	101,204	73.4	36,714	21,410	—20,887	—31,613
Southern Pacific	March	9,102	6,663,843	1,561,782	9,095,013	1,181,811	1,837,120	283,484	3,317,482	556,037	7,360,782	80.9	1,734,231	592,952	177,040	1,068,207
	3 mos.	9,109	18,663,729	5,111,623	26,359,727	3,205,928	5,235,626	875,280	10,366,908	1,683,861	21,982,724	83.4	4,377,003	1,080,100	118,952	2,348,496
So. Pacific Steamship Lines	March	....	347,643	19,745	395,185	22,258	133,302	16,542	318,737	28,287	519,126	131.4	—123,941	—125,178	—125,310	—82,705
	3 mos.	....	1,034,836	63,989	1,169,330	50,083	406,061	52,909	932,037	83,572	1,524,662	130.4	—355,332	—358,578	—358,374	—322,783
Texas & New Orleans	March	4,625	2,185,411	272,800	2,778,820	452,068	593,759	131,669	1,047,536	233,500	2,474,512	89.0	304,308	28,768	—152,965	192,171
	3 mos.	4,628	6,335,223	909,985	8,244,568	1,430,859	1,771,715	392,238	3,209,364	693,356	7,542,799	91.5	701,769	—125,792	—667,983	102,547
Spokane, Portland & Seattle	March	555	311,682	31,482	387,350	53,484	70,419	10,856	151,115	22,522	309,485	79.9	77,865	—1,404	—10,195	56,572
	3 mos.	555	908,756	100,014	1,137,927	139,316	198,699	31,676	450,003	67,056	889,958	78.2	247,969	9,965	—9,636	93,246
Tennessee Central	March	295	164,961	4,545	178,496	28,490	25,196	7,367	68,755	12,366	141,976	79.5	36,520	31,727	17,874	12,693
	3 mos.	295	474,463	13,692	515,034	81,853	70,008	22,457	202,026	37,315	412,764	80.2	102,070	87,931	50,245	27,585
Terminal R. R. Assn. of St. Louis	March	55	.....	.....	545,299	68,271	32,391	4,128	270,232	20,033	397,796	73.0	147,503	59,955	129,236	150,298
	3 mos.	55	.....	.....	1,548,897	185,668	99,764	12,309	793,230	58,795	1,157,977	74.8	390,920	129,817	334,839	381,286
Texas & Pacific	March	1,950	1,368,954	204,199	1,795,252	189,350	336,951	74,829	598,886	111,317	1,327,275	73.9	467,977	350,360	288,185	563,339
	3 mos.	1,950	4,023,932	632,910	5,280,798	540,377	989,339	222,173	1,820,819	336,187	3,956,440	74.9	1,324,358	970,954	603,863	1,216,955
Texas-Mexican	March	162	41,473	711	51,299	10,268	10,216	2,594	12,721	6,864	42,635	83.1	8,664	3,491	1,448	8,183
	3 mos.	162	124,974	2,390	145,447	30,684	30,025	9,080	52,393	19,968	142,121	97.7	3,326	—12,425	—20,689	—32,195
Toledo, Peoria & Western	March	239	113,339	57	116,167	25,868	9,790	12,515	41,405	7,606	97,184	83.7	18,983	15,779	7,950	15,122
	3 mos.	239	318,291	193	325,437	71,910	27,556	36,914	119,781	22,358	278,579	85.6	46,918	38,827	16,053	45,347
Toledo Terminal	March	28	.....	.....	77,243	7,796	12,432	507	33,932	4,435	59,102	76.5	18,141	6,798	20,166	43,738
	3 mos.	28	.....	.....	225,264	14,628	36,778	1,544	99,863	13,525	166,338	73.8	58,926	24,428	72,081	117,235
Union R. R. of Penna.	March	45	.....	.....	214,301	53,237	92,101	121	117,227	13,090	275,776	128.7	—61,475	—68,975	—38,125	—6,043
	3 mos.	45	.....	.....	615,519	120,923	308,561	411	361,481	41,805	833,181	135.4	—217,662	—240,162	—159,881	—86,473
Union Pacific	March	3,768	4,277,958	485,223	5,323,471	310,021	1,025,413	140,321	1,704,473	304,401	3,558,502	66.8	1,764,969	1,257,355	1,100,172	1,142,795
	3 mos.	3,768	12,049,411	1,534,837	15,211,026	875,678	3,187,910	389,651	5,295,279	945,682	10,931,183	71.9	4,279,843	2,790,782	2,422,562	3,220,388
Oregon Short Line	March	2,506	1,488,400	121,303	1,746,180	165,802	244,332	41,703	577,356	118,592	1,179,293	67.5	566,887	313,505	223,076	381,905
	3 mos.	2,505	4,367,232	398,154	5,204,313	487,560	784,921	133,922	1,853,875	343,149	3,720,996	71.5	1,483,317	723,000	484,445	887,820
Oregon-Wash. R. R. & Nav. Co.	March	2,338	923,609	94,727	1,157,030	161,142	170,244	56,990	515,316	98,172	1,010,301	87.3	146,729	—18,284	—136,148	—115,760
	3 mos.	2,338	2,698,377	308,153	3,400,537	440,572	522,218	177,889	1,614,661	311,427	3,094,348	91.0	306,189	—173,316	—475,009	—504,286
Los Angeles & Salt Lake	March	1,249	1,102,192	138,431	1,349,217	134,221	209,675	54,991	437,888	68,904	937,433	69.5	411,784	264,458	127,164	5,587
	3 mos.	1,249	3,210,972	435,193	3,979,767	375,299	608,331	167,944	1,372,095	217,680	2,846,755	71.5	1,133,012	690,802	301,810	—103,726
St. Joseph & Grand Island	March	258	185,591	3,295	198,412	20,421	25,354	2,459	63,880	14,400	126,514	63.8	71,898	57,056	39,658	51,245
	3 mos.	258	531,929	11,199	570,439	55,324	72,610	7,728	197,311	44,562	377,535	66.2	192,904	150,009	100,517	145,706
Utah	March	111	87,668	.....	87,823	13,211	26,297	347	20,495	4,963	65,313	74.4	22,510	16,680	5,143	9,653
	3 mos.	111	400,327	.....	402,410	43,224	88,967	1,206	92,903	15,774	242,074	60.2	160,336	123,348	80,608	69,112
Virginian	March	608	1,241,595	8,832	1,307,942	120,701	240,853	16,378	242,939	30,229	650,978	49.8	656,964	486,964	548,478	442,919
	3 mos.	608	3,518,811	25,643	3,729,240	337,950	675,062	47,364	723,787	87,236	1,871,117	50.2	1,858,123	1,378,098	1,564,493	1,481,132
Wabash	March	2,523	3,034,953	220,348	3,517,517	421,960	558,015	160,257	1,497,900	172,668	2,824,761	80.3	692,756	483,183	129,942	216,627
	3 mos.	2,523	8,349,476	681,170	9,771,452	1,244,451	1,689,383	491,742	4,451,319	533,822	8,454,561	86.5	1,316,891	686,874	—345,126	607,779
Ann Arbor	March	293	819,785	3,099	330,746	35,444	53,361	13,259	125,552	11,185	238,820	72.2	91,926	70,258	49,131	41,464
	3 mos.,	293	816,254	10,581	850,438	101,712	149,120	40,228	378,007	35,251	704,436	82.8	146,002	80,710	23,099	50,337
Western Maryland	March	891	1,125,469	8,742	1,194,329	196,857	232,177	39,614	318,501	45,037	828,290	69.4	366,039	296,039	293,096	377,380
	3 mos.	891	3,241,441	22,164	3,452,192	519,628	618,768	122,666	923,203	126,580	2,303,291	66.7	1,148,901	938,901	922,209	1,170,848
Western Pacific	March	1,051	670,420	35,134	765,482	112,650	175,207	59,194	373,120	42,763	787,649	102.9	—22,167	—116,659	—98,086	—83,918
	3 mos.	1,051	2,081,333	96,960	2,311,821	329,475	544,032	181,088	1,206,621	122,164	2,436,604	105.4	—124,783	—408,358	—391,657	—236,399
Wheeling & Lake Erie	March	511	777,657	4,485	821,970	100,663	206,067	32,103	253,876	32,044	624,753	76.0	197,217	105,635	92,063	127,759
	3 mos.	511	2,122,091	13,469	2,250,230	256,890	567,519	97,904	755,396	91,507	1,769,216	78.6	481,014	216,667	165,708	226,934
Wichita Falls & Southern	March	203	68,150	68	69,695	10,135	7,058	1,973	13,487	2,807	35,460	50.88	34,235	30,068	26,535	—5,900
	3 mos.	203	143,173	182	148,069	28,389	22,461	5,724	41,857	8,944	107,375	72.52	40,694	28,188	16,391	—13,767

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Annual reports begin on next left-hand page

NEWS

(Continued from page 841)

has been appointed to the newly-created position of real estate and tax agent at the same point.

OPERATING

T. L. Green, trainmaster on the Michigan Central, with headquarters at Michigan City, Ind., has been appointed to the newly-created position of assistant superintendent of the West division, with headquarters at Niles, Mich.

TRAFFIC

J. E. Swan, commercial agent for the Chicago, Burlington & Quincy, at Council Bluffs, Iowa, has been appointed to the newly-created position of general agent at the same point.

W. R. Wells, assistant general livestock agent of the Gulf, Colorado & Santa Fe, has been promoted to general livestock agent, with headquarters as before at Ft. Worth, Tex., to succeed **R. E. Buchanan,** deceased.

D. H. Streett, division freight agent on the Chicago, Indianapolis & Louisville, with headquarters at Chicago, has been promoted to general eastern agent, with headquarters at New York, succeeding **P. C. Patterson,** deceased. **H. F. Oehlschlaeger,** traveling freight agent, with headquarters at Cincinnati, Ohio, has been promoted to general agent at the same point, to replace **F. G. Cronin,** who has been appointed division freight agent at Chicago, to succeed Mr. Streett.

ENGINEERING AND SIGNALING

Frank O. Draper, who retired on May 1 as superintendent of bridges of the Illinois Central, had been in railway service almost continuously for 56 years. Mr. Draper, who is 70 years of age, was born at Brighton, Iowa, and commenced his railway career with the Chicago, Rock Island & Pacific at the age of 14. He was with this road and the Iowa Central (now the Minneapolis & St. Louis), until 1895, when he became connected with the Illinois Central as a bridgeman. Within a year, Mr. Draper was advanced to bridge foreman of the Springfield division and on February 1, 1903, he was further promoted to supervisor of bridges and buildings of the old Freeport division. He had been superintendent of bridges, with headquarters at Chicago, since October 1, 1905.

MECHANICAL

P. M. Sullivan, acting superintendent of motive power and cars of the Duluth, Missabe & Northern, with headquarters at Proctor, Minn., has been appointed superintendent of motive power and cars.

PURCHASES AND STORES

Following the merging of the stationery department of the Chicago, Burlington & Quincy with the stores department, the position of stationer has been abolished and **H. C. Boldebuck,** stationer, with headquarters at Chicago, has been assigned to other duties.

O. A. Shultz, inspector of stores on the Chicago, Burlington & Quincy, with headquarters at Chicago, has been appointed storekeeper of the Galesburg division, with headquarters at Galesburg, Ill., succeeding **R. E. Kelly,** who has been transferred to the Ottumwa division, at West Burlington, Iowa. Mr. Kelly replaces **A. G. Swanson,** who has been transferred to the St. Joseph division, with headquarters at St. Joseph, Mo., to succeed **J. K. McCann,** who has been transferred to the Creston division, at Creston, Iowa. Mr. McCann relieves **E. J. Clark,** who has been appointed assistant storekeeper of the McCook division, at McCook, Neb., succeeding **W. F. Myers,** who has been assigned to other duties. The position of inspector of stores at Chicago has been abolished. The jurisdiction of **J. G. Stuart,** assistant purchasing agent, at Chicago, has been extended to include the reclamation plant at Eola, Ill., and the tie and timber preservation plants at Galesburg and Sheridan, Wyo.

OBITUARY

T. O'Leary, superintendent of special service on the Atchison, Topeka & Santa Fe, with headquarters at La Junta, Colo., died at that point on May 6.

E. R. Bernstein, vice-president and general manager of the Louisiana & North West, with headquarters at Shreveport, La., died at that point on May 5.

Annual Reports

Missouri-Kansas-Texas Railroad Company

and Controlled Companies
Annual Report for the Year Ended December 31, 1931

St. Louis, Mo., April 19, 1932.

TO THE STOCKHOLDERS:

The Board of Directors submit herewith report of the operations and affairs of your property for the year ended December 31, 1931.

A summary of results of operation compared with the year 1930 is as follows:

	1931	1930	+Increase —Decrease	Per Cent
Operating Revenues	$34,383,379.64	$45,948,859.05	—$11,565,479.41	—25.17
Operating Expenses	24,501,399.36	30,225,002.64	— 5,723,603.28	—18.94
Net Operating Revenue	$ 9,881,980.28	$15,723,856.41	—$ 5,841,876.13	—37.15
Taxes	2,455,586.33	2,356,928.85	+ 98,657.48	+ 4.19
Uncollectible Railway Revenues	21,044.33	13,551.46	+ 7,492.87	+55.29
Railway Operating Income	$ 7,405,349.62	$13,353,376.10	—$ 5,948,026.48	—44.54
Miscellaneous Income	250,214.81	969,906.37	— 719,691.56	—74.20
	$ 7,655,564.43	$14,323,282.47	—$ 6,667,718.04	—46.55
Rentals and Other Payments	2,111,554.55	2,348,823.17	— 237,268.62	—10.10
Income for Year Available for Interest	$ 5,544,009.88	$11,974,459.30	—$ 6,430,449.42	—53.70
Fixed Interest Charges for Year	4,189,904.87	4,195,450.88	— 5,546.01	— .13
Balance Available for Interest on Adjustment Bonds	$ 1,354,105.01	$ 7,779,008.42	—$ 6,424,903.41	—82.59
Interest on Adjustment Bonds	678,878.36	696,461.21	— 17,582.85	— 2.52
Net Income	$ 675,226.65	$ 7,082,547.21	—$ 6,407,320.56	—90.47

Financial

There was no change in the amount of preferred or common stock outstanding in the hands of the public during the year.

Long term debt was decreased $94,100 on account of underlying bonds and equipment notes paid and retired during the year.

Underlying bonds amounting to $25,000 were exchanged during the year for a similar amount of Prior Lien Series "A" and Series "B" Bonds.

Three quarterly dividends of 1¾ per cent each were declared

out of surplus during the year on the Preferred Stock Series "A" outstanding in the hands of the public.

Pursuant to authority granted by the Interstate Commerce Commission, dated March 26, 1931, this company acquired control, as of July 1, 1931, of the Beaver, Meade and Englewood Railroad Company through purchase of all of its capital stock and bonds. Operations of the Beaver, Meade and Englewood Railroad Company since July 1, 1931, are included herein.

The Interstate Commerce Commission granted our application for authority to charge Profit and Loss with $2,944,508.85 covering equipment retirements during the year.

Operation

Passenger train revenues, including mail and express, continued to decline throughout the year due to the general depression in business and to automobile and bus competition. Revenue from passengers carried in 1931 was less than in 1930 by $1,628,525, or 32.27%.

The total operating revenues during 1931 were $11,565,479 less than in 1930, or 25.17%. Operating expenses during 1931 were $5,723,603 less than in 1930, or 18.94%.

Train operation, both freight and passenger, was satisfactorily maintained during the year. The property is being maintained in good physical condition to meet all requirements of the service.

While our loss in freight revenue is largely a result of the general business depression, other contributing factors are, the growing use of gas as a substitute for coal, and severe competition encountered from other forms of transportation. More extensive use of pipe lines in transporting gasoline has resulted in loss of tonnage from the Oklahoma fields. Truck competition has seriously affected our movement of cotton, livestock, automobiles and a growing list of other carload commodities. Truck competition in the movement of cotton necessitated a reduction of approximately 30% in our cotton rates from points in Oklahoma and Texas to the Texas ports. To further meet truck competition, we inaugurated, effective October 1, 1931, free pick-up and delivery service for the handling of l. c. l. merchandise between all points within a radius of 300 miles, which service is still in the experimental stage. Laws regulating truck operations enacted in the state of Texas during 1931 are proving helpful to the rail lines.

Additions to Property

Additions and improvements to the road, during the year, involved capital account charges amounting to $1,312,509.

The more important road improvements consisted of the near completion of the superstructure of the Missouri River bridge at Boonville, Missouri; replacing 373 lineal feet of timber trestle with concrete structures; application of 59,200 tie plates and 4,960 rail anchors and providing grade separations at nine locations.

Expenditures for new equipment amounted to $242,227 and expenditures for improvements to existing equipment amounted to $56,977. The amount of retirements, for the year, less replacements was $6,995,882. There was a net decrease in value of equipment owned, amounting to $6,696,678.

Federal Valuation

During the year the Interstate Commerce Commission issued its "final value for rate making purposes" for the lines of the former Missouri, Kansas and Texas Railway and sub-

MISSOURI-KANSAS-TEXAS LINES—Consolidated General Balance Sheet

Assets

INVESTMENTS:	December 31, 1931	December 31, 1930	+Increase —Decrease
Investment in Road and Equipment:			
Road	$214,493,071.48	$210,517,676.61	+$ 3,975,394.87
Equipment	45,451,636.14	52,145,654.35	— 6,694,018.21
	$259,944,707.62	$262,663,330.96	—$ 2,718,623.34
Improvements on Leased Railway Property	.....	3,564.07	— 3,564.07
Deposits in Lieu of Mortgaged Property Sold	212.50	212.50	.....
Miscellaneous Physical Property	1,182,004.49	1,102,841.44	+ 79,163.05
Investments in Affiliated Companies—Pledged	527,000.00	527,000.00	.....
Investments in Affiliated Companies—Unpledged	1,230,290.35	1,168,233.69	+ 62,056.66
Other Investments:			
United States Government Securities	1,000,078.13	.....	+ 1,000,078.13
Other Securities	617,433.19	624,072.65	— 6,639.46
TOTAL INVESTMENTS	$264,501,726.28	$266,089,255.31	—$ 1,587,529.03
CURRENT ASSETS:			
Cash	$ 2,280,291.32	$ 6,469,720.09	—$ 4,189,428.77
Time Drafts and Deposits	4,116,712.06	6,479,926.84	— 2,363,214.78
Special Deposits	8,609.94	24,130.84	— 15,520.90
Loans and Bills Receivable:			
Time Loans	501,544.16	2,226,765.02	— 1,725,220.86
Other Bills Receivable	59,094.91	44,923.61	+ 14,171.30
Traffic and Car Service Balances Receivable	457,922.31	696,815.44	— 238,893.13
Net Balance Receivable from Agents and Conductors	455,745.04	616,342.77	— 160,597.73
Miscellaneous Accounts Receivable	912,735.04	992,711.39	— 79,976.35
Material and Supplies at Cost	3,560,373.58	4,674,431.38	— 1,114,057.80
Interest and Dividends Receivable	57,957.63	105,845.29	— 47,887.66
Other Current Assets	16,525.75	22,817.74	— 6,291.99
TOTAL CURRENT ASSETS	$ 12,427,511.74	$ 22,354,430.41	—$ 9,926,918.67

Liabilities

STOCK:	December 31, 1931	December 31, 1930	+Increase —Decrease
CAPITAL STOCK:			
Preferred, Series "A" (Par value $100.00 per share)	$ 66,668,948.12	$ 66,660,708.26	+$ 8,239.86
Common (No par value. See note)	66,672,472.93	66,662,864.87	+ 9,608.06
STOCK LIABILITY FOR CONVERSION:			
Preferred, Series "A" (Par value $100.00 per share)	34,787.49	43,027.35	— 8,239.86
Common (No par value. See note)	17,011.55	26,619.61	— 9,608.06
TOTAL STOCK	$133,393,220.09	$133,393,220.09	.....
LONG TERM DEBT:			
Mortgage Bonds	$ 93,194,179.30	$ 93,204,179.30	—$ 10,000.00
Equipment Trust Obligations	336,400.00	420,500.00	— 84,100.00
Income Mortgage Bonds	13,577,567.24	13,577,567.24	.....
TOTAL LONG TERM DEBT	$107,108,146.54	$107,202,246.54	—$ 94,100.00
CURRENT LIABILITIES:			
Traffic and Car Service Balances Payable	$ 514,538.62	$ 773,826.38	—$ 259,287.76
Audited Accounts and Wages Payable	2,881,756.26	3,512,281.60	— 630,525.34
Miscellaneous Accounts Payable	90,998.34	91,329.84	— 331.50
Interest Matured Unpaid	1,625,594.82	1,637,457.65	— 11,862.83
Dividends Matured Unpaid	19,667.75	1,987,727.00	— 1,968,059.25
Funded Debt Matured Unpaid	1,642.00	15,865.00	— 14,223.00
Unmatured Interest Accrued	455,526.84	458,102.10	— 2,575.26
Unmatured Rents Accrued	139,233.50	99,412.89	+ 39,820.61
Other Current Liabilities	119,799.18	90,883.73	+ 28,915.45
TOTAL CURRENT LIABILITIES	$ 5,848,757.31	$ 8,666,886.19	—$ 2,818,128.88
DEFERRED LIABILITIES:			
Other Deferred Liabilities	$ 342,968.48	$ 54,483.63	+$ 288,484.85
UNADJUSTED CREDITS:			
Tax Liability	$ 1,060,595.43	$ 1,457,771.87	—$ 397,176.44
Accrued Depreciation—Road	136,649.49	.....	+ 136,649.49
Accrued Depreciation—Equipment	11,577,056.01	12,553,708.95	— 976,652.94
Other Unadjusted Credits	364,323.78	348,684.56	+ 15,639.22
TOTAL UNADJUSTED CREDITS	$ 13,138,624.71	$ 14,360,165.38	—$ 1,221,540.67

Consolidated General Balance Sheet, Continued

Assets—Continued

	December 31, 1931	December 31, 1930	+Increase —Decrease
DEFERRED ASSETS:			
Working Fund Advances	$ 99,871.53	$ 107,423.41	—$ 7,551.88
Other Deferred Assets	223,063.82	1.00	+ 223,062.82
TOTAL DEFERRED ASSETS	$ 322,935.35	$ 107,424.41	+$ 215,510.94
UNADJUSTED DEBITS:			
Rents and Insurance Premiums Paid in Advance	$ 83,065.07	$ 86,606.78	—$ 3,541.71
Other Unadjusted Debits	448,038.61	585,882.92	— 137,844.31
TOTAL UNADJUSTED DEBITS	$ 531,103.68	$ 672,489.70	—$ 141,386.02
TOTAL	$277,783,277.05	$289,223,599.83	—$11,440,322.78
The following Assets not included in Balance Sheet Accounts:			
Securities Issued or Assumed—Unpledged:			
Preferred Stock, Series "A"	$ 5,528,364.39	$ 5,528,364.39	.....
Common Stock	15,730,515.52	15,730,515.52	.....
Long Term Debt	11,392,905.46	11,687,205.46	—$ 294,300.00
Securities Issued or Assumed—Pledged:			
Long Term Debt	17,529,000.00	17,504,000.00	+$ 25,000.00
Long Term Debt Held for Exchange of Underlying Securities, per contra	31,113,000.00	31,666,500.00	— 553,500.00

Intercorporate Assets and Liabilities are excluded.

Liabilities—Continued

	December 31, 1931	December 31, 1930	+Increase —Decrease
CORPORATE SURPLUS:			
Additions to Property through Income and Surplus	$ 78,832.57	$ 70,157.86	+$ 8,674.71
Profit and Loss—Balance	17,872,727.35	25,476,440.14	— 7,603,712.79
TOTAL CORPORATE SURPLUS	$ 17,951,559.92	$ 25,546,598.00	—$ 7,595,038.08
TOTAL	$277,783,277.05	$289,223,599.83	—$11,440,322.78
The following Liabilities not included in Balance Sheet Accounts:			
Securities held by or for the Company—Unpledged:			
Preferred Stock, Series "A"	$ 5,528,364.39	$ 5,528,364.39	.....
Common Stock	15,730,515.52	15,730,515.52	.....
Long Term Debt	11,392,905.46	11,687,205.46	—$ 294,300.00
Securities held by or for the Company—Pledged:			
Long Term Debt	17,529,000.00	17,504,000.00	+ 25,000.00
Liability to holders of underlying Long Term Debt in exchange for which securities are held per contra	31,113,000.00	31,666,500.00	— 553,500.00

The Company is guarantor, jointly with other Companies, of the securities of certain terminal companies, none of which is in default.

There were 808,935.6095 shares Common Stock outstanding in hands of the public December 31, 1931, an increase of 116.5744 shares. There were also 206.4007 shares included in Stock Liability for Conversion on December 31, 1931, a decrease of 116.5744 shares.

As no liability is admitted under Section 15A of the Interstate Commerce Act no cognizance thereof has been taken in preparing the above Balance Sheet.

No provision has been made for proposed additional assessments in respect to prior years' Federal Income Taxes, under appeal.

Dividends on 7% Cumulative Preferred Stock, Series "A" have been declared and paid to September 30, 1931.

sidiary companies as of June 30, 1918, on a level of prices of land as of June 30, 1918, and of other property as of 1910-14, amounting to $144,957,389 for property devoted to common carrier purposes, including therein the cost of reproduction, less depreciation, working capital and other elements of value.

No final value applicable to the present system lines has been found by the Commission. As a result of property changes due to relinquishments in the reorganization, to additions and retirements made since June 30, 1918, and of variations in price levels, the final valuation is subject to revision for use as of another date. Cost of your company's valuation work to the end of 1931 aggregated $1,722,372.

Industrial Development

During the year 1931, 168 new industries representing an investment of approximately $6,400,000 were established on rails of the company and during the same period 40 existing establishments with an investment of approximately $225,000 were removed, leaving a net gain during the year of 128 industries having an invested capital of $6,175,000. Substantial progress was made in agricultural development by perfecting numerous plans for the production of revenue producing cash crops.

M. H. CAHILL,
President.

Minneapolis, St. Paul & Sault Ste. Marie Railway Co.

Wisconsin Central Railway Company

For the fiscal year ended December 31, 1931

To the Stockholders:

Submitted herewith is a report for the fiscal year ended December 31, 1931.

The Gross Revenue, Operating Expenses, Fixed Charges, Net Income, etc., are shown in the following condensed statement:

	Soo Line (Soo District)	Wis. Cent. Ry. (Chicago District)	System 1931	System 1930
Gross Revenue	$16,121,233.09	$12,317,995.16	$28,439,228.25	$39,892,858.14
Operating Expenses	13,624,885.80	10,385,161.30	24,010,047.10	31,295,866.67
Net Revenue	$2,496,347.29	$1,932,833.86	$4,429,181.15	$8,596,991.47
Income from Other Sources	1,234,813.09	108,587.27	1,343,400.36	1,513,068.01
Total Income	$3,731,160.38	$2,041,421.13	$5,772,581.51	$10,110,059.48
Fixed Charges, Taxes, etc.	7,745,835.38	5,004,392.86	12,750,228.24	13,088,382.37
Net Deficit	$4,014,675.00	$2,962,971.73	$6,977,646.73	$2,978,322.89

Gross Revenue for the System during 1931 was $28,439,228.25, a decrease of $11,453,629.89, or 28.71% compared with the previous year.

Freight Revenue for the System during 1931 was $23,626,980.38, a decrease of $9,515,189.66, or 28.71% compared with the previous year.

The decreases in Freight Revenue were as follows:

Products of Agriculture	$2,622,579
Products of Forests	1,709,525
Less than Carload Freight	926,911
Animals and Products	129,614
Products of Mines	1,511,051
Manufactures and Miscellaneous	2,615,510
Total Decrease	$9,515,190

Products of Agriculture decreased as a result of drouth and market conditions. Grain moving from west of Minneapolis and Duluth during the period August 1, 1931, to December 31, 1931, was 8,222,000 bushels, as compared with 27,595,000 bushels during the corresponding period of 1930. The total number of bushels moved from this territory during

the entire calendar year 1931 was 22,183,000, as compared with 39,119,000 in 1930. It is estimated that the total 1931 grain crop tributary to our line was 16,355,000 bushels, of which 8,133,000 bushels were in elevators and on farms December 31, 1931. The grain raised in territory tributary to our line during the crop years of 1915 to 1931 and subsequently moved to market via our line was as follows:

Year	Bushels	Year	Bushels
1915	83,527,877	1924	66,280,641
1916	34,233,059	1925	55,374,519
1917	28,560,411	1926	30,627,251
1918	52,002,485	1927	54,138,346
1919	30,393,424	1928	56,816,503
1920	41,232,301	1929	32,867,641
1921	36,832,469	1930	41,556,685
1922	59,429,961	1931	16,355,000*
1923	34,657,645		

* Estimated.

Products of Forests decreased as a result of the general depression and the depletion of timber resources adjacent to our line.

Less than Carload Freight decreased as a result of poor business conditions which were particularly aggravated by the severe drouth in North Dakota. The increased activities of trucks and forwarding companies also caused a loss in this class of freight. Steps have been and are being taken to meet the competition of trucking and forwarding companies. The question of inaugurating truck pick-up and delivery service has been given careful thought. To date, it has not been decided that it would be to the company's best interests to give this service in view of the probable necessity of establishing it at all points on our system and the general lack of regulation of trucking companies.

Animals and Products decrease was caused entirely by the increased use of trucks, there actually being a larger total movement to market of all kinds of livestock in this territory. Recently this company made drastic reductions in livestock minimum weights to permit movement of much smaller carloads, which action it is believed will return to us at least a part of this business.

Products of Mines decrease resulted largely from a sharp decline in the movement of iron ore and coal. Total shipments of iron ore from mines in the Lake Superior District via all railroads was only 23,496,228 tons in 1931, compared with 47,187,661 tons in 1930. The extremely mild weather in the latter part of the year, as well as the general depression in business, caused a decrease in coal traffic. The total coal shipments from the Duluth-Superior District via all railroads decreased over 60,000 cars in 1931 compared with 1930. In the lignite fields in North Dakota, trucks have been used extensively by individuals in hauling lignite to market. The movement of sand and gravel by railroad was curtailed through less building activity and increased use of trucks from local pits.

Manufactures and Miscellaneous decreased as a result of the general business depression and the lowered purchasing power of the farmer due to the exceptional drouth and market conditions. Many cars of feed, seed, food supplies, and clothing were handled free or at reduced rates in order to make it possible for the farmers to stay on their land. Truck activities have also reduced our carload shipments of this class of freight, although we are making special efforts to establish rates that will hold the business.

During the year the services of Pace Incorporated, Industrial Engineers, were obtained for the purpose of making a study of industrial conditions along our line and assisting in the development of present industries and bringing in new industries. This organization co-operates with the local chambers of commerce and commercial associations. It is believed that this work will result in considerable benefit to the company.

Comparisons of Cars Loaded on our line and received from

GENERAL BALANCE SHEET—DECEMBER 31, 1931

Assets

Property Investment:		
Road	$104,146,914.07	
Equipment	35,595,842.93	
	$139,742,757.00	
Less Reserve for Equipment Depreciation (Per Schedule on page 30)	14,400,369.37	
Total		$125,342,387.63
Sinking Fund		1,291.56
Deposits in lieu of Mortgaged Prop. Sold		4,884.94
Miscellaneous Physical Property		3,126,589.98
Wis. Cent. Ry. Co., Preferred Stock (Pledged for M. St. P. & S. S. M. Ry. Co., 4% Leased Line Certificates)		11,256,400.00
Investments in Proprietary, Affiliated, and Controlled Companies:		
Stocks (Per Schedule on page 18)	$ 12,008,379.47	
Bonds (Per Schedule on page 18)	8,000,000.00	
W. C. Ry. Co. Advances	4,995,532.08	
Other Advances	2,726,872,61	
Total		27,730,784.16
Other Investments:		
Stocks	$ 1.00	
Bonds	1,867,200.00	
Notes	182,014.56	
Real Estate Sales Contracts	42,536.00	
Total (Per Schedule on page 18)		2,091,751.56
Current Assets:		
Cash	$ 1,823,048.30	
Special Deposits	67,582.36	
Loans and Bills Receivable	11,432.42	
Traffic and Car Service Balances	125,139.43	
Agents and Conductors Balances	365,933.55	
Miscellaneous Accounts Receivable	650,023.56	
Material and Supplies	3,268,864.10	
Interest and Dividends Receivable	126,421.95	
Other Current Assets	18,176.61	
Total		6,456,622.28
Deferred Assets:		
Working Fund Advances	$ 26,032.75	
Other Deferred Assets	212,700.50	
Total		238,733.25
Unadjusted Debits:		
Rents and Insurance Paid in Advance	$ 31,622.87	
Discount on Funded Debt	862,006.81	
Other Unadjusted Debits	738,194.22	
Total		1,631,823.90
Grand Total		$177,881,269.26

Liabilities

Capital Stock:		
Common	$ 25,206,800.00	
Preferred	12,603,400.00	
Total		$ 37,810,200.00
Governmental Grants:		
Grants in Aid of Construction		3,224.89
Funded Debt Unmatured (Per Funded Debt Schedule on Page 19)		94,820,800.00
M. St. P. & S. S. M. Ry. Co. 4% Leased Line Certificates (Issued in exchange for Preferred Stock of Wis. Central Ry. Co., held by Trustee.)		11,256,400.00
Non-negotiable Debt to Affiliated Companies		1,536,457.70
Current Liabilities:		
Loans and Bills Payable	$ 10,000,000.00	
Traffic and Car Service Balances	376,784.41	
Audited Vouchers and Wages Payable	1,735,206.65	
Miscellaneous Accounts Payable	52,444.14	
Interest Matured Unpaid	2,000,458.23	
Funded Debt Matured Unpaid	49,000.00	
Unmatured Interest Accrued	414,988.28	
Unmatured Rents Accrued	6,816.14	
Other Current Liabilities	73,883.70	
Total		14,709,581.55
Deferred Liabilities:		
Equipment Purchase Contracts	$ 1,660,742.99	
Other Deferred Liabilities	24,447.84	
Total		1,685,190.83
Unadjusted Credits:		
Tax Liability	$ 1,049,985.74	
Premium on Funded Debt	987.28	
Insurance and Casualty Reserves	43,045.37	
Other Unadjusted Credits	1,024,530.19	
Total		2,118,548.58
Corporate Surplus:		
Additions to Property thru Income and Surplus	$ 256,397.88	
Funded Debt Retired thru Income and Surplus	243,000.00	
Sinking Fund Reserve	1,291.56	
Profit and Loss, Credit Balance	13,440,176.27	
Total		13,940,865.71
Grand Total		$177,881,269.26

connections, and revenue, 1927 to 1931, inclusive, are shown in the statement below:

	(000 omitted from Revenue) 1927	1928	1929	1930	1931
Products, Agricultural:					
Cars	93,947	100,157	80,619	73,372	54,714
Revenue	$8,970	$10,206	$7,589	$7,129	$4,507
Products, Animal:					
Cars	36,180	35,432	34,114	27,591	25,818
Revenue	$2,659	$2,594	$2,554	$2,152	$2,022
Products, Mines:					
Cars	139,092	141,548	158,910	120,825	84,354
Revenue	$6,663	$6,374	$7,050	$5,554	$4,043
Products, Forests:					
Cars	148,599	132,744	129,965	95,780	60,747
Revenue	$6,618	$6,016	$5,982	$4,602	$2,892
Miscellaneous:					
Cars	125,253	136,164	136,390	116,697	90,214
Revenue	$9,564	$11,153	$11,640	$9,738	$7,123
Merchandise:					
Tons	503,582	483,520	461,194	382,760	296,244
Revenue	$5,237	$5,130	$4,937	$3,967	$3,040
Grand Total:					
Cars	543,071	546,045	539,998	434,265	315,847
Revenue	$39,711	$41,473	$39,752	$33,142	$23,627

Passenger Revenue was $2,182,473.99, a decrease of $1,210,424.44, or 35.68%; local business decreasing 37% and interline or through business, 34.5%. These decreases were due to general business conditions and increased use of highway conveyances, especially private automobiles.

Revenue from Milk and Cream handled in baggage cars was $361,747.64, a decrease of $68,186.66, of which $36,651.62 was on the Soo District and $31,535.04 was on the Chicago District.

In addition to the movement of milk and cream in baggage cars, the Chicago District handled milk in tank cars producing freight revenue of $37,432.15, as compared with $55,127.81 during the previous year.

Department of Agricultural Development. Much of the time of the Agricultural Department during the year was devoted to emergency work necessitated by the severe drouth in our western territory. Early in the season this work included the location of available pasture and feed supplies to which livestock from the stricken area might be moved. Later on it included assistance in the purchase of hay and feed grain for movement to points where needed to carry breeding stock and work horses through the winter. Two series of demonstrations, using specially fitted exhibition cars, were conducted in towns along our line. One of these was to encourage the use of good seed grains of adapted varieties; the other, to promote the production of potatoes of improved quality. The previous year's field projects, consisting of fertilizer demonstrations, corn variety tests, corn yield tests, and soy bean experiments, were continued; but were hampered considerably by the abnormal weather conditions. The department also continued to assist in placing pure bred sires, breeding ewes, and pure bred rams.

Maintenance of Way and Structures expenses decreased $1,955,479.45, or 33.19%. This decrease is greater in proportion than the decrease in gross revenue, but was effected without loss of efficiency due to the good condition of the property at the beginning of the year.

Maintenance of Equipment expenses decreased $2,145,588.08, or 27.59%. This decrease is within less than one-half of one per cent of the ratio of decrease in gross revenue. Sufficient engines and cars to handle the traffic were maintained on the basis of former standards.

Transportation Expenses decreased $2,959,488.95, or 19.80%. It was impossible to reduce passenger or freight train mileage in the same ratio as gross revenue was reduced. This was especially true in the territory west of Minneapolis which was affected by a severe crop failure. On the branch lines, which compose 76.81% of the mileage west of Minneapolis, train service was cut to the minimum permitted under state laws. Nevertheless, gross tons per train averaged only 1,157 as against the best previous record of 1,787. All stations where earnings fell below the minimum required by state laws were closed where permission could be obtained from the state commission.

Effective September 1, a reduction of 10% was made in the salaries of all officers and certain classes of supervisors and clerks, resulting in a payroll saving for the year of $82,336.00.

Effective February 1, 1932, a temporary reduction of 10% was accepted by all organized labor. This, with the reduction already made, will result in an estimated payroll saving in 1932 of $1,400,000.00.

Hire of Equipment charges decreased $203,700.00. This was due to the heavy decrease in car loading, which reduced the interchange of equipment and payments to other lines for use of the same. Business conditions also resulted in a decrease in rental for privately owned freight cars.

Property Investment. The road investment account for the system was decreased a net amount of $453,065.58, representing the difference between additions and betterments totaling $487,227.15 and abnormal retirement charges amounting to $940,292.73 due to the abandonment of 26.5 miles of branch lines in the State of Wisconsin, which were no longer required in view of the depletion of the timber resources; the removal of 6.63 miles of line at Superior, Wisconsin, rendered unnecessary by retirement of the ore dock at that point in 1930; and the sale of the coal and merchandise docks with all appurtenances at Gladstone, Michigan, to a large industrial concern which expects to erect a plant on this site.

The equipment investment account for the system was decreased a net amount of $2,277,974.32, resulting from additions and betterments to equipment totaling $105,180.46; retirements of one locomotive and 318 box cars, amounting to $689,983.39; and an adjustment of equipment contracts between the Soo Line and the Wisconsin Central Railway Company decreasing this account by $1,693,171.39. From time to time the Soo Line has purchased equipment for the Wisconsin Central Railway Company and has entered into conditional sale agreements with that Company whereby it was to repay the Soo Line in installments. Since 1925, the Wisconsin Central Railway Company has not made the required payments. In order to reduce this indebtedness, it conveyed its interest in 1,985 units of such equipment to the Soo Line on the basis of original cost less depreciation as of June 30, 1931. On that date the original cost of this equipment, carried in the Wisconsin Central Railway Company equipment investment account, was $6,393,368.06 and reserve for depreciation was $1,693,171.39, leaving a depreciated value of $4,700,196.67. The Wisconsin Central Railway Company was given credit for $4,700,196.67, and the 1,985 units of equipment were taken into the Soo Line equipment investment account at that figure. The Wisconsin Central Railway Company now uses this equipment under a lease from the Soo Line with an option to repurchase any or all of it at any time.

Funded and Unfunded Debt. The outstanding indebtedness was decreased during the year, a net amount of $1,077,547.62, as follows:

Increases:		
Minneapolis, St. Paul & Sault Ste. Marie Railway Company:		
One Year Five Per Cent Secured Notes		$10,000,000.00
Decreases:		
Minneapolis, St. Paul & Sault Ste. Marie Railway Company:		
Ten Year Collateral Trust Gold Bonds	$10,000,000.00	
First Refunding Mortgage Series "A" Bonds	22,000.00	
Twenty-five Year Gold Notes	105,011.00	
Equipment Trust Notes	744,000.00	
Equipment Purchase Contracts	147,536.62	
Wisconsin Central Railway Company:		
First General Mortgage Bonds	52,000.00	
Marshfield & Southeastern Division Mortgage	7,000.00	
Total Decrease		$11,077,547.62
Net Decrease		$1,077,547.62

The Company retired at maturity, on September 1, 1931, $10,000,000 of its Ten Year 6½% Collateral Trust Gold Bonds, together with the collateral security for the same consisting of $12,500,000 of its First Refunding Mortgage 6% Series "A" Bonds maturing on July 1, 1946. In lieu of these Series "A" Bonds, the Company issued $12,500,000 of its First Refunding Mortgage 5½% Series "B" Bonds, callable on and after July 1, 1958, and maturing on July 1, 1978. These Series "B" Bonds are guaranteed as to interest by endorsement thereon by the Canadian Pacific Railway Company. These bonds were pledged as collateral security for an issue of $10,000,000 of One Year 5% secured notes, maturing August 1, 1932, the proceeds of which were used for the payment of the Ten Year 6½% Collateral Trust Gold Bonds which were retired on September 1, 1931.

General. As the figures in the foregoing report show, the year 1931 was a very disastrous one for this property. The chief contributing cause for this was the almost total crop failure in our western territory. In addition to this, the business depression very materially reduced our earnings from lumber, forest products, iron ore, and coal.

The moisture conditions in our territory are much better than a year ago, and the crop which is being planted at the present time is going in under very favorable conditions.

The property has been well maintained. Economies have been put into effect, which, when business returns, will very favorably affect our net earnings.

C. T. JAFFRAY,
President.